Headquarters Resource Management Plan to support FRBC's Sustainable Harvest Objective

Draft 2

January 31, 2001

105-06212/

HRMP Components and Component Leaders of the Sustainable Harvest Objective

Enhanced Forestry Component – Frank Barber

Backlog NSR Component – John McClarnon

Habitat / Biodiversity Monitoring Component – Mike Fenger

Forest Level Analysis Component – Pat Martin

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Writing and technical support – Raoul Wiart & Sarah Shasko

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN – SUSTANABLE HARVEST STRATEGIC OBJECTIVE

1.0 EXECUTIVE SUMMARY

1.1 VISION FOR SUSTAINABLE HARVEST IN BC

Forest Renewal BC's investments will, over five years, increase the timber available for potential future harvest by 25 million cubic metres (1999/2000 to 2004/2005). The achievement of this overall goal will make a significant contribution to the economy of British Columbia, will increase future options for sustainable management of the multitude of forest resources, and will sustain the diversity and integrity of BC's forests.

Comment: Is this the correct time frame?

Comment: This is part of a statement from the habitat protection strategy and I think it fits really well here.

The desired future forests will be achieved by basing decisions and activities on a world-class level of strategic silviculture planning. This planning process will regularly update strategic silviculture plans incorporating timber, habitat, biodiversity, range and other values into the forest level analysis. The analysis links to the timber supply review process, and recommends levels of investment by specific activities (or treatments), to meet objectives and assumptions stated in timber supply analyses and other strategic plans. The silviculture strategic plans form the basis for the regional Resource Management Plans.

The productivity and quality of the future forests will be consistently and accurately predicted, and results of monitoring the effects of treatments will be incorporated into each level of decision-making. Selected ecosystem indicators will reflect habitat development over time, and forest management decisions will ensure long term biodiversity is sustained.

Comment: The FRBC board needs to see that "biodiversity" is not compromised.

If the recommended funding strategy is followed, by 2004 the following targets will be met in addition to the overall goal:

1) Enhanced forestry activities will improve the end harvest value of select treated stands by 5-30% in 65 years.
2) Backlog surveys will ensure 125,000 hectares of forest land are declared free growing; and 25,000 hectares will have been added to the productive forest land base.
3) Plans and prescriptions will better represent environmental values, and treatments will contribute to maintaining structural and compositional diversity in managed forests.
4) Monitoring protocols will be established to support the program
5) World class growth and yield decision aids will be developed, trained and utilized in 100% of forest level silviculture plans.

Comment: The EF component says 2003, but this isn't 5 years from 1999-2003…which is correct, 2003 or 2004?

Comment: Notice the targets all relate to stand level – this is intentional, and these targets are those listed in the component summaries. Can we meet these targets with $5 million??????

1.2 ACHIEVING THE VISION

The primary activities that will achieve the vision at the provincial and regional levels are: planning; developing decision-making tools, guidelines and standards; training and

extension; and monitoring. These activities support implementation of treatments in the forest districts at the stand level. See Diagram 1 for a graphic depiction of the linkages between sustainable harvest support activities and implementation activities.

Achievement of the vision will be measured by comparing performance measures to targets. Sustainable harvest performance measures will be developed, revised and tested that reflect the public's social, environmental and economic objectives. Targets will be set collaboratively between the resource ministries and Forest Renewal BC, with input from the Multi-Year and Annual Agreement Holders. Treatments will be implemented at the stand level using adaptive management, which is a systematic, rigorous approach for learning from our actions, improving management, and accommodating change.

The vision will be achieved if we follow an investment strategy that recognizes the contributions of the above listed support activities. This strategy entails a 3% investment in Headquarters and Regional activities to support treatment implementation. At the current level of $86 million investment in silviculture activities, we recommend $2.6 million investment to support the industry, district, regional and provincial FRBC investments..

Comment: Two points, 1) should we aim for 10% for HQ and regional levels?; and 2) what example figures do you think are realistic?. Since we expect $86 million for implementation (I think-from 2000/01 FRBC strategic plan) and are hoping for $5 million, we are aiming for 5.8% at HQ level.

In addition, investments under the Strengthening Sustainable Forest Management (SSFM) Strategic Objective will provide additional relevant, useable, and timely information and tools keyed filling knowledge gaps related to sustainable harvest.

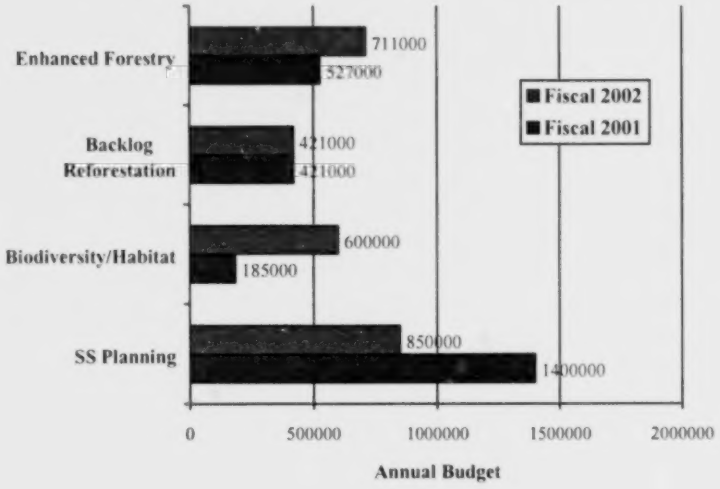
2.0 COMPONENTS

The following is the recommended investment program to support FRBC's Sustainable Harvest Objectives

Sustainable Harvest Component	2001/2002 Funding Request
3.1.1 Enhanced Forestry	$ 711,000
3.1.2 Backlog NSR	$ 521,000
3.1.3 Habitat / Biodiversity Monitoring	$ 600,000
3.1.5 Forest Level Analysis for Silviculture Investments	$ 850,000
Total SH Funding Request	**$ 2,682,000**

Chart 1:

Proposed fiscal 2002 funding scenario of $2.6 million and comparison with fiscal 2001



SH Component allocations proposed with $2.6 million target funding level

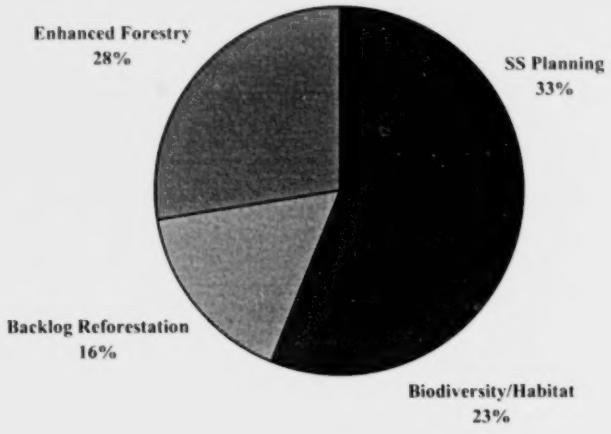
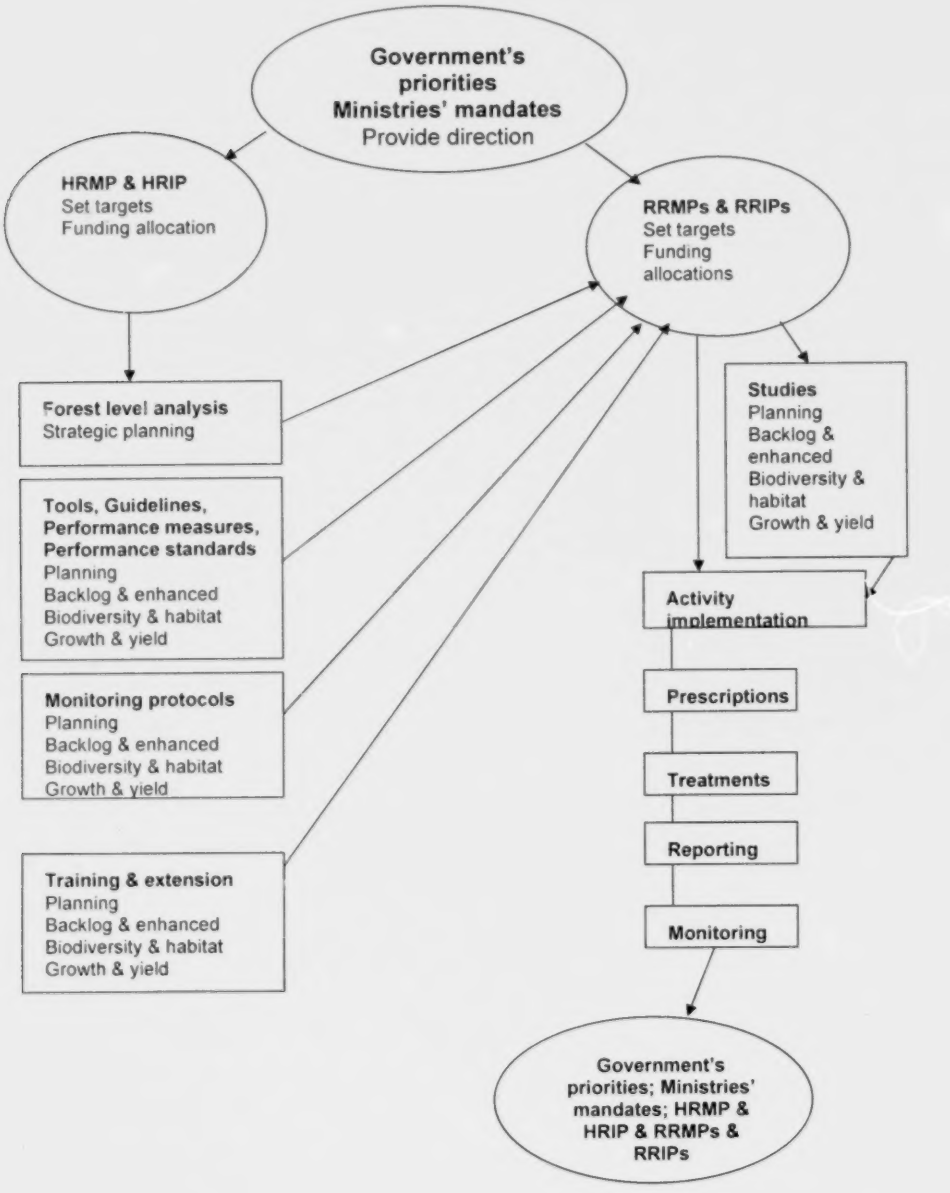
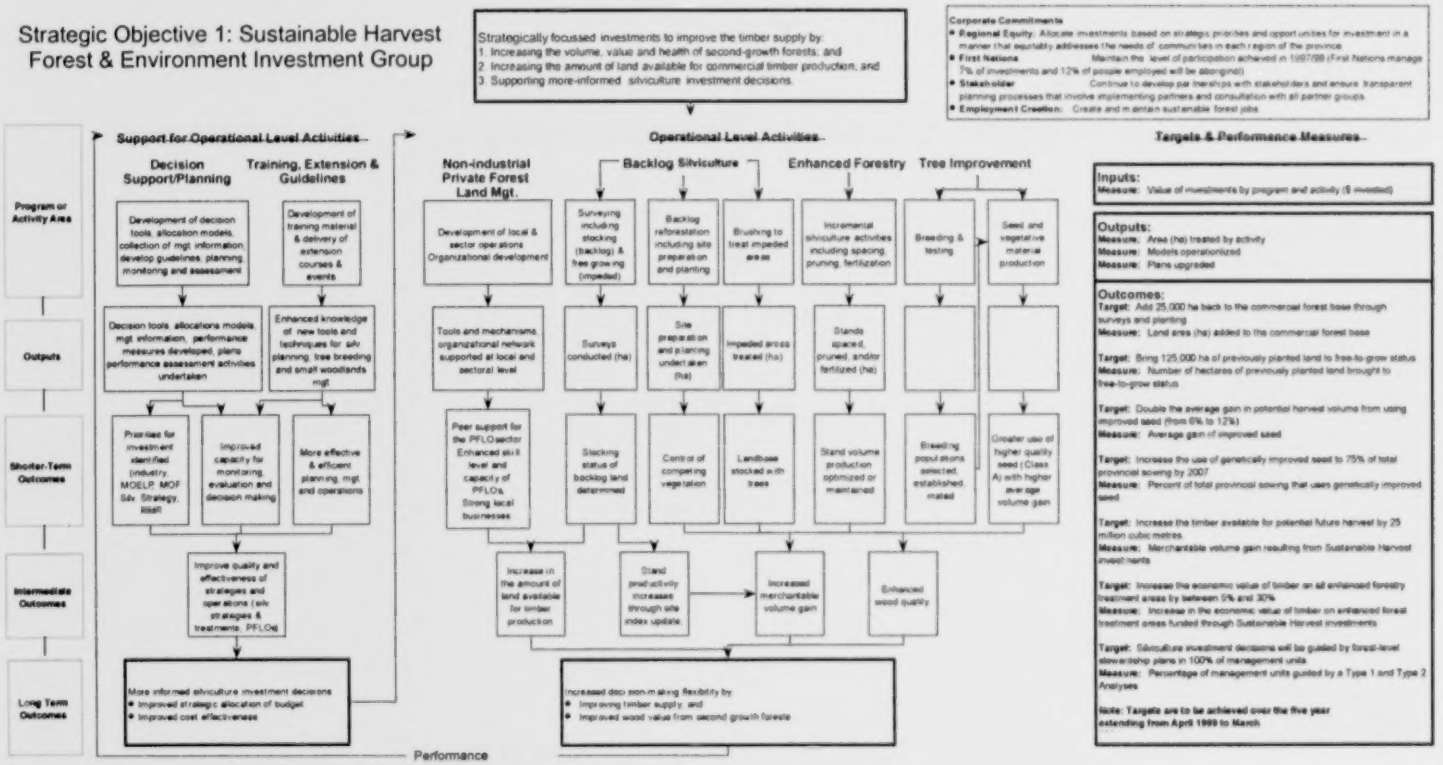
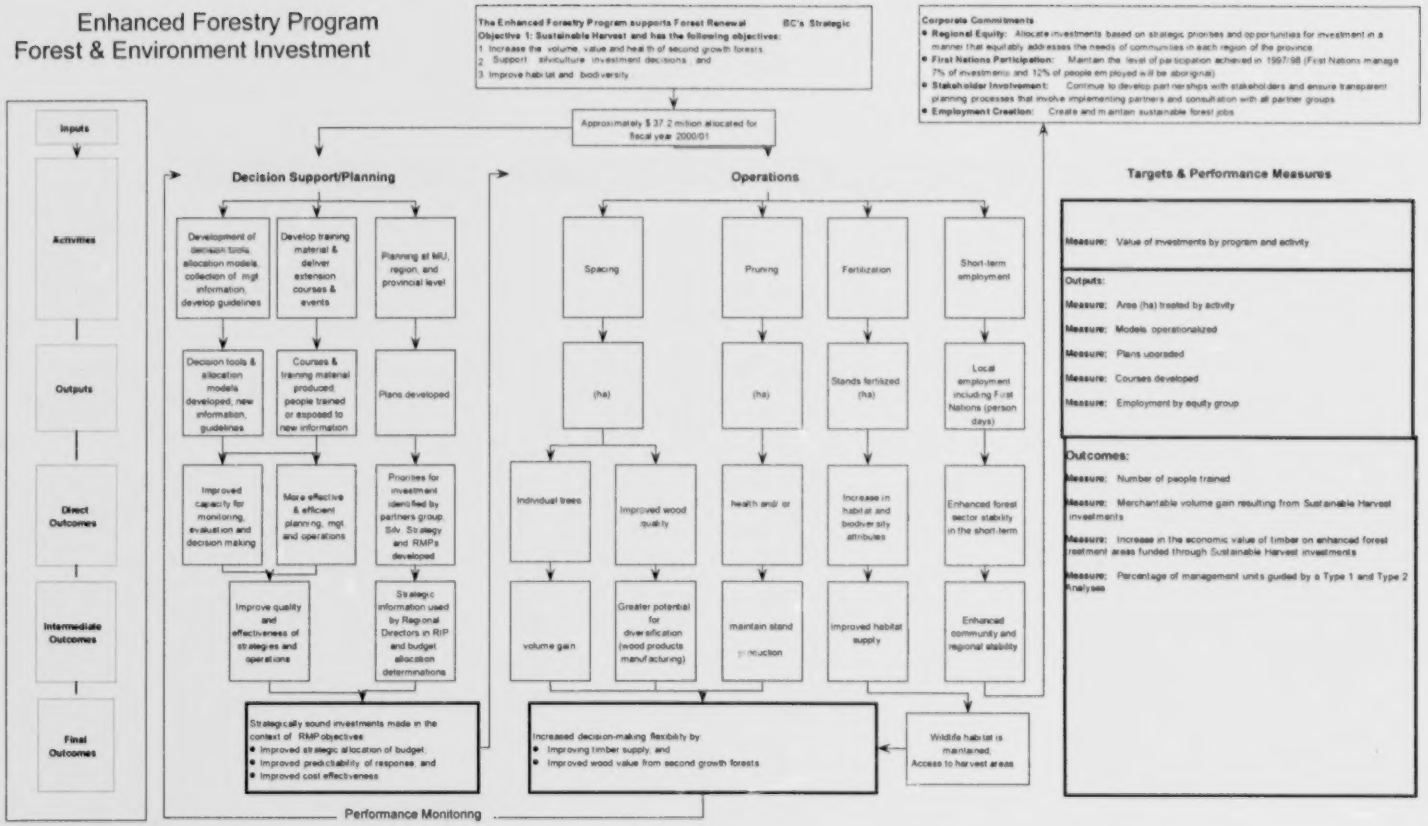


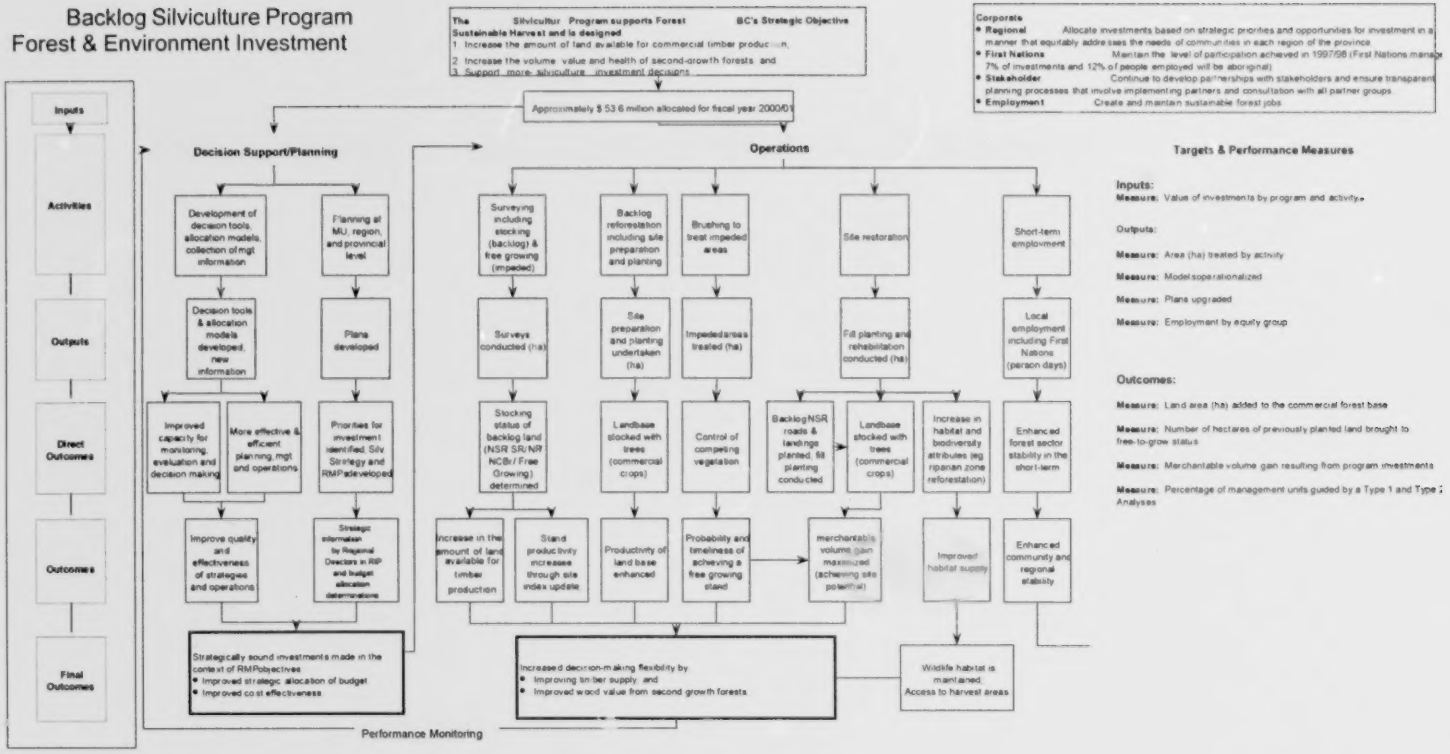
Diagram 1 – Linkages between sustainable harvest support activities and implementation activities



The following Logic Chart illustrates the key areas, which the projects in the Headquarters Resource Management Plan for the Sustainable Harvest Objective support. See the boxes highlighted in Yellow for key logic chart activities which are supported.


Strategic Objective 1: Sustainable Harvest
Forest & Environment Investment Group
Strategically focussed investments to improve the timber supply by:
1. Increasing the volume, value and health of second-growth forests, and
2. Increasing the amount of land available for commercial timber production, and
3. Supporting more-informed silviculture investment decisions.
Corporate Commitments
Regional Equity: Allocate investments based on strategic priorities and opportunities for investment in a manner that equitably addresses the needs of communities in each region of the province
First Nations: Maintain the level of participation achieved in 1997/98 (First Nations manage 7% of investments and 12% of people employed will be aboriginal)
Stakeholder: Continue to develop partnerships with stakeholders and ensure transparent planning processes that involve implementing partners and consultation with all partner groups.
Employment Creation: Create and maintain sustainable forest jobs
Program or Activity Area
Outputs
Shorter-Term Outcomes
Intermediate Outcomes
Long Term Outcomes
Support for Operational Level Activities
Decision Support/Planning
Training, Extension & Guidelines
Development of decision tools, allocation models, collection of mgt. information, develop guidelines, planning, monitoring and assessment
Development of training material & delivery of extension courses & events
Decision tools, allocations models, mgt. information, performance measures developed, plans performance assessment activities undertaken
Enhanced knowledge of new tools and techniques for silv. planning, tree breeding and small woodlands mgt.
Priorities for investment identified (industry, MOELP, MOF Silv. Strategy, itself)
Improved capacity for monitoring, evaluation and decision making
More effective & efficient planning, mgt. and operations
Improve quality and effectiveness of strategies and operations (silv. strategies & treatments, PFLOs)
More informed silviculture investment decisions
Improved strategic allocation of budget
Improved cost effectiveness
Operational Level Activities
Non-industrial Private Forest Land Mgt.
Backlog Silviculture
Enhanced Forestry
Tree Improvement
Development of local & sector operations Organizational development
Surveying including stocking (backlog) & free growing (impeded)
Backlog reforestation including site preparation and planting
Brushing to treat impeded areas
Incremental silviculture activities including spacing, pruning, fertilization
Breeding & testing
Seed and vegetative material production
Tools and mechanisms, organizational network supported at local and sectoral level
Surveys conducted (ha)
Site preparation and planting undertaken (ha)
Impeded areas treated (ha)
Stands spaced, pruned, and/or fertilized (ha)
Peer support for the PFLO sector Enhanced skill level and capacity of PFLOs, Strong local businesses
Stocking status of backlog land determined
Control of competing vegetation
Landbase stocked with trees
Stand volume production optimized or maintained
Breeding populations selected, established, mated
Greater use of higher quality seed (Class A) with higher average volume gain
Increase in the amount of land available for timber production
Stand productivity increases through site index update
Increased merchantable volume gain
Enhanced wood quality
Increased decision-making flexibility by:
Improving timber supply, and
Improved wood value from second growth forests
Performance
Targets & Performance Measures
Inputs:
Measure: Value of investments by program and activity ($ invested)
Outputs:
Measure: Area (ha) treated by activity
Measure: Models operationalized
Measure: Plans upgraded
Outcomes:
Target: Add 25,000 ha back to the commercial forest base through surveys and planting
Measure: Land area (ha) added to the commercial forest base
Target: Bring 125,000 ha of previously planted land to free-to-grow status
Measure: Number of hectares of previously planted land brought to free-to-grow status
Target: Double the average gain in potential harvest volume from using improved seed (from 6% to 12%)
Measure: Average gain of improved seed
Target: Increase the use of genetically improved seed to 75% of total provincial sowing by 2007
Measure: Percent of total provincial sowing that uses genetically improved seed
Target: Increase the timber available for potential future harvest by 25 million cubic metres
Measure: Merchantable volume gain resulting from Sustainable Harvest investments
Target: Increase the economic value of timber on all enhanced forestry treatment areas by between 5% and 30%
Measure: Increase in the economic value of timber on enhanced forest treatment areas funded through Sustainable Harvest investments
Target: Silviculture investment decisions will be guided by forest-level stewardship plans in 100% of management units
Measure: Percentage of management units guided by a Type 1 and Type 2 Analyses
Note: Targets are to be achieved over the five year extending from April 1999 to March


Enhanced Forestry Program
Forest & Environment Investment
The Enhanced Forestry Program supports Forest Renewal BC's Strategic Objective 1: Sustainable Harvest and has the following objectives:
1 Increase the volume, value and health of second growth forests.
2 Support silviculture investment decisions, and
3 Improve habitat and biodiversity.
Approximately $ 37.2 million allocated for fiscal year 2000/01
Corporate Commitments
Regional Equity: Allocate investments based on strategic priorities and opportunities for investment in a manner that equitably addresses the needs of communities in each region of the province.
First Nations Participation: Maintain the level of participation achieved in 1997/98 (First Nations manage 7% of investments and 12% of people employed will be aboriginal)
Stakeholder Involvement: Continue to develop partnerships with stakeholders and ensure transparent planning processes that involve implementing partners and consultation with all partner groups.
Employment Creation: Create and maintain sustainable forest jobs.
Inputs
Activities
Outputs
Direct Outcomes
Intermediate Outcomes
Final Outcomes
Decision Support/Planning
Development of decision tools, allocation models, collection of mgt information, develop guidelines
Develop training material & deliver extension courses & events
Planning at MU, region, and provincial level
Decision tools & allocation models developed, new information, guidelines
Courses & training material produced, people trained or exposed to new information
Plans developed
Improved capacity for monitoring, evaluation and decision making
More effective & efficient planning, mgt and operations
Priorities for investment identified by partners group, Silv. Strategy and RMPs developed
Improve quality and effectiveness of strategies and operations
Strategic information used by Regional Directors in RIP and budget allocation determinations
Strategically sound investments made in the context of RMP objectives
Improved strategic allocation of budget,
Improved predictability of response, and
Improved cost effectiveness
Operations
Spacing
Pruning
Fertilization
Short-term employment
(ha)
(ha)
Stands fertilized (ha)
Local employment including First Nations (person days)
Individual trees
Improved wood quality
health and/ or
Increase in habitat and biodiversity attributes
Enhanced forest sector stability in the short-term
volume gain
Greater potential for diversification (wood products manufacturing)
maintain stand production
Improved habitat supply
Enhanced community and regional stability
Increased decision-making flexibility by
Improving timber supply, and
Improved wood value from second growth forests
Wildlife habitat is maintained.
Access to harvest areas
Performance Monitoring
Targets & Performance Measures
Measure: Value of investments by program and activity
Outputs:
Measure: Area (ha) treated by activity
Measure: Models operationalized
Measure: Plans upgraded
Measure: Courses developed
Measure: Employment by equity group
Outcomes:
Measure: Number of people trained
Measure: Merchantable volume gain resulting from Sustainable Harvest investments
Measure: Increase in the economic value of timber on enhanced forest treatment areas funded through Sustainable Harvest investments
Measure: Percentage of management units guided by a Type 1 and Type 2 Analyses


Backlog Silviculture Program
Forest & Environment Investment
The Silviculture Program supports Forest Sustainable Harvest and is designed
BC's Strategic Objective
1 Increase the amount of land available for commercial timber production,
2 Increase the volume, value and health of second-growth forests, and
3 Support more silviculture investment decisions
Approximately $ 53.6 million allocated for fiscal year 2000/01
Corporate
Regional Allocate investments based on strategic priorities and opportunities for investment in a manner that equitably addresses the needs of communities in each region of the province
First Nations Maintain the level of participation achieved in 1997/98 (First Nations manage 7% of investments and 12% of people employed will be aboriginal)
Stakeholder Continue to develop partnerships with stakeholders and ensure transparent planning processes that involve implementing partners and consultation with all partner groups
Employment Create and maintain sustainable forest jobs
Inputs
Activities
Outputs
Direct Outcomes
Outcomes
Final Outcomes
Decision Support/Planning
Operations
Development of decision tools, allocation models, collection of mgt information
Planning at MU, region, and provincial level
Decision tools & allocation models developed, new information
Plans developed
Improved capacity for monitoring, evaluation and decision making
More effective & efficient planning, mgt and operations
Priorities for investment identified, Silv Strategy and RMP developed
Improve quality and effectiveness of strategies and operations
Strategic information by Regional Directors in RIP and budget allocation determinations
Strategically sound investments made in the context of RM Pobjectives
Improved strategic allocation of budget
Improved cost effectiveness
Surveying including stocking (backlog) & free growing (impeded)
Backlog reforestation including site preparation and planting
Brushing to treat impeded areas
Site restoration
Short-term employment
Surveys conducted (ha)
Site preparation and planting undertaken (ha)
Impeded areas treated (ha)
Fill planting and rehabilitation conducted (ha)
Local employment including First Nations (person days)
Stocking status of backlog land (NSR SR/NPR NCBr/ Free Growing) determined
Landbase stocked with trees (commercial crops)
Control of competing vegetation
Backlog NSR roads & landings planted, fill planting conducted
Landbase stocked with trees (commercial crops)
Increase in habitat and biodiversity attributes (eg riparian zone reforestation)
Enhanced forest sector stability in the short-term
Increase in the amount of land available for timber production
Stand productivity increases through site index update
Productivity of land base enhanced
Probability and timeliness of achieving a free growing stand
merchantable volume gain maximized (achieving site potential)
Improved habitat supply
Enhanced community and regional stability
Increased decision-making flexibility by:
Improving timber supply, and
Improved wood value from second growth forests
Wildlife habitat is maintained;
Access to harvest areas
Performance Monitoring
Targets & Performance Measures
Inputs:
Measure: Value of investments by program and activity.
Outputs:
Measure: Area (ha) treated by activity
Measure: Model operationalized
Measure: Plans upgraded
Measure: Employment by equity group
Outcomes:
Measure: Land area (ha) added to the commercial forest base
Measure: Number of hectares of previously planted land brought to free-to-grow status
Measure: Merchantable volume gain resulting from program investments
Measure: Percentage of management units guided by a Type 1 and Type 2 Analyses

SUSTAINABLE HARVEST

3.1.1 - ENHANCED FORESTRY COMPONENT

PROJECT PROPOSALS

TABLE OF CONTENTS

FRBC ENHANCED FORESTRY VISION 2

PROJECTS:

BROADLEAF TREE SPECIES FOREST HEALTH STANDARDS 4

DECISION SUPPORT SYSTEM TO QUANTIFY RISK FROM DAMAGING AGENTS 6

FRBC ENHANCED FORESTRY GUIDELINES, STANDARDS AND PROCEDURES 8

EFP TREATMENT MONITORING 10

PROJECT SUMMARY 10

FOREST HEALTH MANAGED STAND INVENTORY MONITORING 12

EFP KNOWLEDGE TRANSFER 14

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

SUSTAINABLE HARVEST STRATEGIC OBJECTIVE–
FRBC ENHANCED FORESTRY COMPONENT VISION

Component Leader:

Name: Ralph Winter
Organization: Ministry of Forests, Forest Practices Branch
Telephone & Fax: (250) 387-8906 (250) 387-2136
Email: ralph.winter@gems9.gov.bc.ca

Vision

The vision for this component is:

To increase volume, economic value, health, and habitat supply and diversity of second growth forests through the:

- development and delivery of silviculture guidelines, standards and procedures, and cost caps to support planning and implementation of sustainable harvest activities,
- development, refinement and training of FRBC performance measures, provincial and regional budget allocation process, a forest health expert system, and monitoring protocols, to optimize investment strategies to meet sustainable harvest objectives, and,
- development and extension of relevant and current forest management training, tools and knowledge needed for effective planning and implementation of enhanced forestry activities to meet strategic objectives.

The on-going support of projects in this component provide the necessary operational tools and processes for FRBC to set and revise, as appropriate, agency performance targets and objectives. All operational tools and processes within this component were specifically derived from the five eligibility criteria in Section 3.1 (HRMP Component Eligibility Criteria) to meet informational needs and priorities in the RMP and HRMP processes.

This component satisfies all of the eligibility criteria, performance targets and linkage requirements as follows.

1. This component will contribute to the production of faster growing higher quality of stands of second growth timber by developing and refining guidelines, standards and procedures, performance measures, budget allocation process, monitoring, cost caps, training, tools and knowledge. These are key initiatives that facilitate the implementation of the Sustainable Harvest component.

2. The Enhanced Forestry component complements and facilitates existing regional investments by:
   - providing monitoring protocols to validate investments;
   - improving decision support for investments; and
   - providing training, tools, and knowledge to assist regional and district staff involved in operational implementation.

3. It is incremental to the MOF mandate by virtue of silviculture being a major investment area of Forest Renewal BC, with 85% of it being completed by licensees.

4. Clear time-bound deliverables include: monitoring protocols, cost caps, and adaptive management tutorial by March 31, 2002; a Web-based version of the Tree Doctor forest health diagnostic tool by March 2003; and forest health risk analysis training by March 2004 (among others).

5. The planning process is transparent and involves existing advisory groups such as Regional Forest Sector Initiatives Managers, Regional Forest Practices Team leaders, and the Habitat Section of MELP.

6. This component relies on partnerships with Forest Renewal BC, Ministry of Forests, licensees, and Ministry of Environment, Lands and Parks to develop and refine the operational tools produced under this component.

7. The Enhanced Forestry component of the HRMP contributes to Forest Renewal BC's return on investment criteria by providing the science, economics and decision support for the Sustainable Harvest objective for the entire provincial program. The emphasis of the projects is to a large extent driven by the suggestions of the Auditor General's report on the Forest Renewal BC silviculture program.

8. This component links to RMPs by refining guidelines, standards and procedures for planning, implementing and monitoring treatments. Revision of operational tools and processes in this component are strongly influenced by the utilization of information and products developed from other components in the Sustainable Harvest strategic objective, particularly the *Growth and Yield, Habitat/Biodiversity Monitoring* and the *Forest Level Analysis for Silviculture Investments* components.

9. Enhanced Forestry component and project leaders will identify appropriate issues and strategies for Sustainable Forest Management by seeking the answers to the highest priority issues and developing strategies to meet those issues. Regional input will be used to refine the tools and guidelines.

Past Investment and Proposed FRBC Budget

Projects	Project Status	Estimated cost for 01-02	Completion date	Priority
Guidelines, Standards, Procedures	On-going	$461,000	2004	1
EFP Monitoring	On-going	$75,000	2004	1
Forest Health	On-going	$25,000	2004	1
Training	On-going	$125,000	2004	1
Decision Support	New	$25,000	2004	
Total		**$711,000**		

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
Broadleaf Tree Species Forest Health Standards

Originators

Name: John Henigman Organization: Forest Practices Branch
Tel./FAX 250 356 5886 / 250 387 2136 E-mail: John.Henigman@gems1.gov.bc.ca

Project Summary

This project will develop and pilot cost effective operational standards to judge the forest health status of commercial broadleaf tree species. Associated with this project, training will be provided to operational forestry staff on the new standards. This project is incremental to the Ministry mandate because it has never been addressed due to the lack of resources.

Status

New project.

Project Details

Background

Currently, operational forestry staff does not have consistent direction to assess the health status of reforested broadleaf trees. Broadleaf tree species are commonly included in reforestation in most timber supply areas throughout the province. In some cases the trees are included to provide habitat and in other cases to provide timber. Standards to judge tree health are needed to assure that regional and district investments for the plantings are well conceived. Broadleaf tree forest health standard guidelines will ensure, through planning and subsequent silviculture treatments, that reforested trees are healthy.

Objectives

- To develop broadleaf tree forest health standards for the province;
- To validate the standards using a pilot data collection;
- To analyze the data collection and revise the standards; and
- To operationally implement the standards, and to provide forestry staff training.

Scope

The scope of this project is provincial.

Clients

The clients of this project are the Forest Practices Branch, forest industry including the Small Business Forest Enterprise Program, and the FRBC Backlog Program.

Decision/Ministry objectives supported

The Ministry of Forests is committed to ensure that forest sites are reforested with healthy, well-stocked stands of trees appropriate to the site. As well, reforestation with broadleaf trees contributes to achievement of enhanced levels of biodiversity.

Complimenting and facilitating existing regional investments

This project will allow regions and districts to consistently judge if broadleaf managed stands are healthy. It will allow the regions and districts to better direct their investments related to broadleaf tree management both for habitat improvement and for timber.

A transparent planning process

The development and evaluation of the broadleaf tree forest health standards will be undertaken in full consultation with regional staff, and with the assistance of forest industry.

Deliverables

The following are project deliverables:

- Year 1: the completion of provisional broadleaf tree forest health standards for the province;
- Year 2: the completion of pilot data collection using the standards, analysis of results and revision of the standards for operational use; and
- Year 3: completion of the development of training course material for operational forestry staff.

Partners/Linkages

The need for forest health standards is supported by the Ministry of Forests regions, and by forest industry. Three forest companies that are actively pursuing the development of broadleaf standards are Louisiana Pacific, Slocan Group and Canadian Forest Products.

Consequence of Not Funding

If this project is not funded standards to judge the health of broadleaf trees will not be available. Forest sites most appropriate to broadleaf tree species may not be restocked with healthy trees.

Timing Constraints

The project should be funded annually, starting on normal fiscal year start dates in order to accomplish standards development, field work and data analysis.

Past Investment and Proposed FRBC Budget

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
0	0	0	30 000	30 000	60 000

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
Decision Support System to Quantify Risk from Damaging Agents

Originators

Name(s):	John Muir, Frank Barber	Organization:	MoF-Forest Practices Branch
Telephone:	387-8740 / 387-8910	E-mail Address:	john.muir@gems1.gov.bc.ca frank.barber@gems6.gov.bc.ca

Project Summary

To compile all damaging agent trial information and other available information in the province and from elsewhere to develop a Decision Support System (DSS) that will give operational foresters a quantified level of risk associated with the FRBC funded EFP activity of juvenile spacing. This DSS would be based on tree species, biogeoclimatic subzone, geographic region and pest species.

Status

New project

Project Details

Background

This project was initiated based on increasing concern about leaving higher density stands after spacing to account for a perceived risk of loss in crop trees due to damaging agents mainly due to juvenile spacing. Spacing increases product diversity, wood quality and value and lumber recovery. Spacing also reduces harvesting, transporting, sorting and milling costs, and provides for a range of other management objectives such as habitat and biodiversity, reduced fire hazard. Field foresters currently are leaving extra crop trees after spacing to act as a "mortality buffer" in case some damaging agent kills some remaining crop trees. The major questions are:

- How many extra stems per hectare should be left after spacing to account for a perceived risk of losing certain crop trees to pests?
- What is the real level of risk versus perceived level of risk of losing extra crop trees to damaging agents after spacing? and
- What are the potential losses in the benefits of spacing if the perceived risk is not realized and the extra crop trees limit premium log grade target potential had the stand been spaced without leaving a mortality buffer?

Foresters also should know if damage agents would prevent attainment of other management objectives and stand attributes such as wildlife habitat.

Objectives

The objective of this project is to develop a DSS based on available damage agent data and stand growth data, that will provide the field practitioner a quantitative estimate of risk of loss in crop trees from a spaced stand due to damaging agents.

Scope (local, regional or provincial)

Local, regional and provincial. This operational DSS would be used by licensees and district staff in determining the appropriate spacing regimes in prescription preparation (SPs and SMPs) to achieve specific end-product objectives. The DSS would provide more realistic spacing regimes required to target end-product objectives and timber supply requirements.

Clients

FRBC, forest licensees, MELP, MoF headquarters, regions, and districts

Decision/Ministry objectives supported

Juvenile spacing is funded by FRBC in the EFP program. This project provides FRBC a valuable tool to ensure the appropriate post-spacing densities are left to meet sustainable harvest objectives.

Outputs of date if continuing

By March 31, 2001, a prototype DSS will be designed and tested. Data sources will be compiled and gaps identified. An estimate and tasks needed to develop a fully operational decision support system will be prepared.

Deliverables

- Phase 1: (2001-2002) development of the DSS that will be tested on real stands to determine the real versus perceived level of risk from damaging agents after spacing. Phase 1 will look at rusts and root rots first as most data and information in the province to-date are from these two damaging agents. This phase will also look at revising existing surveys to collect more accurate damaging agent data, and if necessary recommend new survey data collection requirements to more accurately reflect risk from damaging agents.
- Phase 2: (2002-2003) - further refinement of the DSS for root rots and rusts. Extension of the DSS to other damaging agents will involve further data acquisition for ongoing trials, surveys and other data sources. Continuing on survey procedure revisions necessary to quantify risk.
- Phase 3: (2003-2004) – continuation of refinement of DSS.

Partners/linkages

FRBC, MELP and MoF Headquarters, regional and district staffs are all key partners in the development and refining of this operational tool. This tool links operationally to the district and regional RMP process. Fine-tuning spacing regimes for EFP funded spacing activities will ensure maximum return on FRBC investments and the achievement of sustainable harvest objectives from silviculture strategies.

Consequences of not funding

This operational tool is core to the successful implementation of FRBC's EFP program. Not funding this project would mean that FRBC would continue to make investments in spacing through the RMP process without knowing whether the post-spacing densities are appropriate to meet sustainable harvest objectives in the silviculture strategies.

Timing Constraints

This project must commence on April 1, 2001 to have the DSS up and running to provide more meaningful spacing regimes that will be included in the RMP process submissions by September, 2002.

Past Investment and Proposed FRBC Budget

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
Projects		$25,000	$100,000	$100,000	$225,000

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (to be assigned)

Project Name:
FRBC Enhanced Forestry Guidelines, Standards and Procedures

Originators

Name: Ralph Winter
Organization: Forest Practices Branch
Tel./FAX 387-8906 / 387-2136
E-mail: ralph.winter@gems9.gov.bc.ca

Project Summary:

To increase volume, economic value, health, and habitat supply and diversity of second growth forests. This project provides key silviculture guidelines, standards, procedures and cost caps to support planning and implementation of sustainable harvest activities. This project also provides operational volume and value performance measures, a budget allocation process, monitoring tools, and training and extension to optimize investment strategies to meet sustainable harvest objectives.

Status

on-going

Project Details

Background

This project was initiated by FRBC to set, refine and monitor appropriate agency performance targets and standards to meet sustainable harvest objectives. All deliverables within this project were specifically derived by FRBC from the five eligibility criteria in Section 3.1 (HRMP Component Eligibility Criteria) to meet informational needs and priorities in the RMP and HRMP processes. The development, refinement and implementation of guidelines, standards and procedures, performance measures, budget allocation process, monitoring, cost caps, and the training and extension of FRBC silviculture courses are key initiatives that are core requirements to the implementation of the Sustainable Harvest program.

Objectives

The objective of this project was to develop and refine operational tools that ensure appropriate stand level investments are made in the Enhanced Forestry Program. These investments would be based on management unit silviculture strategies, regional and headquarter priorities.

Scope (local, regional or provincial)

Local, regional and provincial. These operational tools are being used at the district and regional levels for preparing and fine-tuning annual regional RMP activity submissions. Provincially, these operational tools will ensure appropriate allocations of regional EFP funds to maximize, FRBC's return on investment.

Clients

FRBC, forest licensees, MELP, MoF headquarters, regions, and districts

Decision/Ministry objectives supported

This project supports FRBC and the ministry's objective to ensure the appropriate investments are made in the EFP program to meet sustainable harvest objectives.

Outputs of date if continuing

By March 31, 2001, all operational tools developed in this project will be trained and implemented in all regions and most districts. On-going refinement of these deliverables will be required to more accurately reflect localized management unit conditions and EFP activity constraints.

Deliverables:

- Refinement of performance measures (volume/value) for spacing, pruning and fertilization to quantify benefits from the EFP program (March 31, 2002 - 2004).
- Refinement of operational silviculture guidelines, standards and procedures, and cost caps for implementing FRBC funded silviculture treatments (March 31, 2002, on-going).
- Refinement and operational training and support for the Provincial and Regional silviculture budget allocation process (March 31, 2002 - 2004).
- Monitoring protocols of the FRBC silviculture investments (March 31, 2002, on-going).
- Development and extension of relevant and current forest management training, tools and knowledge of FRBC silviculture courses (March 31, 2002 - 2004).
- On-going technical support for FRBC on critical issues (March 31, on-going)

Partners/linkages:

FRBC, MELP and MoF Headquarters, regional and district staff are all key partners in the development and refining of the operational tools in this project. The key linkages between district RMP submissions, regional RMP roll-ups and subsequent allocation of FRBC funding requires all partners to work collectively to ensure appropriate investments in EFP activities are made. Key linkages to other components in the SH Strategic Objective, particularly from the Growth & Yield, Habitat/Biodiversity Monitoring and Forest Level Analysis for Silviculture Investment components, provide timely inputs of new products and information, that ensures the operational tools developed in this project accurately reflect all resource management objectives.

Consequences of not funding:

The operational tools developed in this project are core to the successful implementation of FRBC's EFP program. Not funding this project would mean that FRBC would continue to make investments in EFP activities through the RMP process without knowing the overall return on investment and have no assurances that treatments were appropriate to meet sustainable harvest objectives.

Timing Constraints:

This project must commence on April 1, 2001 to provide refined estimates for inclusion in the RMP process submissions by September.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
		$461,000	$461,000	$461,000	$1,383,000

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
EFP treatment monitoring

Originators:

Name(s):	Patrick Martin	Organization:	MoF-Forest Practices Branch
Telephone:	356-0305	E-mail Address:	Pat.Martin@gems8.gov.bc.ca

Project Summary

Systems to provide feedback are a critical component of every well-run program. Systems to monitor the outcomes of enhanced forestry activities, and provide feedback to continually refine incremental treatments, are required for the Enhanced Forestry Program (EFP). This project will produce monitoring protocols, communications on monitoring, and analyses of monitoring data. These products will be housed in a resource center web site where silviculture program managers can easily access them. This project will develop the tools required for Forest Renewal partners (particularly MoF and licensees) to monitor the outcomes of their EFP-funded activities. This project is required if Forest Renewal is to meet their Sustainable Harvest Strategic Objective.

Status

New

Project Details

Background

In the audit of the silviculture programs, the Auditor General noted that systems are needed "for monitoring and evaluating the long-term impacts of enhanced forestry work (pg. 173)." Protocols to address some national and management unit monitoring needs are being developed (see the RIB project proposal "Provincial inventory change monitoring"). However, little progress has been made providing foresters with tools to monitor the outcomes of their incremental treatment programs. This project will concentrate on their unique needs.

Objectives

The objective for this project is to provide materials (procedures, extension materials, and analyses) that will build the capability of Forest Renewal partners to monitor the outcomes of their enhanced forestry activities.

Scope

Local, regional, and provincial. The monitoring resource center will provide materials that support silviculture decisions in local management units, and allocation and guidance at the regional and provincial levels.

Clients

FRBC; forest licensees; MoF headquarters, region, and district.

Decision/Ministry objectives supported

This project supports the ministry objective to provide, over both the short- and long -terms, a mix of social, economic and environmental benefits from provincial forests. To do so, we must monitor (check whether our expectations are being achieved) and provide performance feedback to facilitate continual improvement of the incremental program.

Deliverables:

The project deliverables are:

i. A set of monitoring protocols that address questions of specific relevance to the EFP;

ii. Extension materials to assist practitioners to select appropriate monitoring systems, assess the strengths and weaknesses of various systems, etc; and
iii. Analyses to address key monitoring questions where appropriate data is currently available.

Partners/Linkages:

This project will partner with some major licensees, MoF regions and districts to develop and pilot monitoring protocols, produce extension materials, and conduct analyses of monitoring data. Partnership discussions are underway with Interfor, Riverside, and Crestbrook Forest Industries. This project links to – and will be coordinated with - the RIB project "Provincial inventory change monitoring" to ensure project efficiency, maintain high standards, and avoid duplication of effort.

Consequence of Not Funding:

If this project is not funded, the development of reliable systems to monitor the outcome of EFP-funded treatments will remain slow. The EFP will continue to lack a key component of good programs – the monitoring of outcomes to provide feedback to fine-tune the program. FRBC will be unable to respond positively to the Auditor General's criticism that it is not doing enough to ensure that the impacts of its funded activities are checked. There will be no security that investments in spacing, pruning, fertilization, etc are not simply wasting FRBC money and degrading – not improving – future timber quality and volume.

Timing Constraints:

This project should commence by April 1, 2001 to provide continuity with the on-going effort to develop inventory monitoring protocols.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
		$75,000	$100,000	$100,000	$275,000

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (to be assigned)

Project Name:
Forest Health Managed Stand Inventory Monitoring

Originators:

Name: John Henigman Organization: Forest Practices Branch
Tel./FAX 250 356 5886 / 250 387 2136 E-mail: John.Henigman@gems1.gov.bc.ca

Project Summary:

This incremental project will deliver forest health damage agent incidence and severity data for managed stands at the Management and Sub-Management Unit (Landscape) level (e.g.: TSA or TFL) over time. In conjunction with industrial-funded pilot projects, business needs for monitoring data will be determined and protocols and sampling frameworks will be developed in response. The results of this statistically valid data collection will assist in the determination of timber supply net downs associated with damage. Monitoring procedures will become part of the RIB VRI Toolkit.

Status:

This project is a continuation of work initiated under the Growth and Yield Monitoring Task Force (GYMTF). The project scope is new.

Project Details:

Background

Damage agent incidence and severity vary across the forest landscape and through time. The locations of the centers of damage tend on to be unevenly distributed. This monitoring program is being developed by the Forest Practices and Resource Inventory Branches to provide useful information to estimating timber supply losses for timber supply review. Part of this project will involve advising industry on the design and use of monitoring data. The level of data collection is managed stands in timber supply areas and timber farm licenses. Data will be collected in a statistically acceptable fashion and will be obtained at a sampling resolution appropriate to estimate losses. Sites will be revisited on a regular basis to chart damage agent incidence change over time.

Objectives:

- To obtain forest health damage agent incidence and severity data for managed stands at the forest inventory subunit level (e.g.: TSA or TFL) over time.
- To analyze the data, using calibrated models (such as Prognosis) and apply the results to assist in the determination of timber supply net downs associated with damage; and
- To establish linkages with the provincial and other monitoring initiatives.

Scope:

This program has a provincial level scope

Clients:

Include: BC Forest Resources Inventory Council
BC Forest Productivity Council
Canadian Forest Inventory Committee
FORDIV branches
Regions/Industry

In particular, staff of the Forest Practices, Resource Inventory and Timber Supply Branches will use this information.

Decision/Ministry objectives supported:

The Forest Practices and Resource Inventory Branches working group support this project. Forest health regional staff specialists support it.

Complimenting and facilitating existing regional investments:

This provincial inventory monitoring initiative is to be offered province wide, and there are no existing formal initiatives of the regions to collect this information. The data collection in this project will offer strategic guidance to region and district staff to focus operational forest management treatments in locations identified with high incidence of damage agents.

A transparent planning process:

This project has been conceived by RIB and regional forest health staff specialists to address the collection of damage agent inventory data. The Forest Productivity Council has asked for this initiative. Protocol development, piloting and operational training would be overseen by working groups of inventory and forest health specialists. They, in turn, will confer with regional management teams and provincial productivity consul.

Deliverables:

The following are project deliverables:

- Year 1: project protocol development and sampling design;
- Year 2: project piloting and initial data analysis; and
- Year 3: project protocol fine tuning, additional data collection, manuals, field training and quality assurance.

Following the third season of this project it is envisioned that this program would be operational. At that time a decision could be made to continue to provide funds through headquarters to collect data, or to decentralize the function to regions and districts.

Partners/Linkages:

The Resource Inventory and Forest Practices Branches working group expect that this project for forest health can be developed together with monitoring data collection for silviculture (Sustainable Harvest, R Winter; Strengthening Sustainable Forest Management, G. Townsend) and for habitat (Sustainable Harvest, M. Fenger) in co-operation with the Ministry of Environment and Parks. The three partners involved in monitoring data collection are the Forest Practices and Resource Inventory Branches, MOF; and the Habitat Branch, MELP.

Consequence of Not Funding:

If this project is not funded a program useful to the estimation of timber supply net downs for damage agents will remain unavailable.

Timing Constraints:

The project should be funded annually, starting on normal fiscal year start dates in order to accomplish field work and data analysis.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
0		25 000	170 000	90 000	285 000

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (to be assigned)

Project Name:
EFP Knowledge Transfer

Originators:

Kathy Hopkins
Tel. 387-4653 Fax: 387-2513

MOF ForDiv Services Branch
E-mail: kathy.hopkins@gems9.for.gov.bc.ca

Project Summary

This project will provide current, accessible knowledge and tools relevant to enhanced forestry, backlog reforestation and sustainable resource management. The deliverables will increase the volume, economic value and health of second growth forests by developing information to assist those who plan EFP activities. This proposal is incremental to the MOF mandate in that it provides training, tools, and resources specifically to support the field activities undertaken in FRBC's Enhanced Forestry Program.

Status:
continuing

Project Details:

Background
To help staff responsible for planning and implementing EFP treatments cultivate a highly productive and sustainable forest, Forest Renewal BC has invested in developing tools and training. To make sure these tools and courses are relevant and meet the needs of EFP practitioners, periodic training needs assessments, evaluations and strategies are developed. To make the training materials, tools, and products widely accessible and easily searchable, the EFP Virtual Resource Center Website will be expanded.

Objectives
- To provide relevant and accessible tools and information to support the planning and implementation of enhanced forestry projects, and strengthen sustainable forest management.
- To ensure the knowledge tools are current and relevant to the needs of the EFP program.

Scope:
provincial

Clients
Industry, government, and consulting professional and technical forestry personnel who are responsible for developing stand management prescriptions, and for developing, implementing, and monitoring silviculture treatments.

Outputs to date:
- EFP Virtual Resource Center & brochure 2000
- Demystifying Adaptive Management course 2000
- EFP training needs assessment (1999) evaluation framework and report(1997), (1997, 1999) Training Strategy 1996, and support strategy 1999
- Repackaged root disease course
- Packaged forest health training for surveys and prescriptions
- Aerial Overview Surveys Training Program and Tree Doctor CD-ROM

Decision/ Ministry Objectives Supported

This project supports the MOF objectives of enhancing forest productivity (*2000-01 Business Plan* objective 1g) and equipping staff with the right skills and knowledge to achieve the Ministry's goals effectively (strategic goal 3).

Deliverables:

- adaptive management tutorial by March 2002
- forest health risk analysis training by March 2004
- grow and maintain the EFP Virtual Resource Center Website, adding up to 10 products per year until all relevant EFP support materials are available electronically. Maintain currency. By March 31 2002, 2003, 2004.
- updated training needs assessment, evaluation and EFP support strategy by March 2002
- implemented knowledge support strategy 2002-2005
- revise root disease training for second growth stands by March 2003
- develop integrated visual design training by March 2003
- training in how to use partial cutting to achieve sustainable harvests and address wildlife, recreation, visual quality and other non-timber objectives, 2002 - 2005
- convert the Tree Doctor diagnostic tool for Web-based delivery by March 2003
- update the vegetation management course for backlog reforestation by March 2002

Partners/Linkages:

Co-funded by Ministry of Forests. The EFP Virtual Resource Center is linked to the Research Extension partnership websites, and additional linkages will be established in future.

Consequence of Not Funding:

Advances in forest management will not reach the people who plan and implement EFP and backlog treatments. Expected gains in volume, value and health of second growth forests will not be realized. Investments to date in training tools and information will be lost if not made accessible and maintained current.

Timing Constraints:

Ongoing project: currency and value to clients could be compromised if funding is interrupted.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
$205,000	$80,000 (in kind)	$125, 000	$160,000	$160,000	$445,000

SUSTAINABLE HARVEST

3.1.2 – BACKLOG NSR COMPONENT

PROJECT PROPOSALS

TABLE OF CONTENTS

FRBC BACKLOG NSR VISION 2

PROJECTS:

SERAL PLANT COMMUNITY DESCRIPTIONS FOR CORRELATED VEGETATION GUIDELINES IN B.C. 4

FRBC BACKLOG NSR REPORTS, PLANS, GUIDELINES, MONITORING AND PROCEDURES 6

SOIL REHABILITATION: MONITORING PLOTS AND DATABASE 8

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

SUSTAINABLE HARVEST STRATEGIC OBJECTIVE – BACKLOG NSR COMPONENT VISION

Component Leader:

Name: John McClarnon
Organization: Ministry of Forests,
Telephone & Fax: (250) (250)
Email:

Vision

The vision for this component is:

To support:

1. *more informed silviculture investment decisions and strategies, and*
2. *improved forest practices*

to achieve the public's social, environmental, and economic expectations for the backlog program.

This component supports the following Forest Renewal Sustainable Harvest objectives:

- Increase the volume, economic value, and health of second growth forests
- Increase the amount of land available for commercial timber production
- Support more-informed silviculture investment decisions
- Maintain or enhance habitat supply and long-term biodiversity of second-growth forests

The deliverables from this component are directed towards supporting Forest Renewal backlog investments that are effective, economical, and environmentally sound.

This component satisfies all of the eligibility criteria, performance targets and linkage requirements as follows.

1. The Backlog Reforestation component will meet funding agency performance targets and objectives by providing the necessary support for bringing 125,000 hectares of previously planted land to free growing status, and adding 25,000 hectares to the commercial forest base through surveys and planting over five years. This support includes developing 5-year backlog plans, cost guidelines, habitat management information, and extension. The height intercept model will be verified, sheep health inspected, equipment calibrated and trials maintained.

2. Backlog Reforestation HRMP efforts complement and facilitate existing regional investments by:
- supporting informed regional decision making and improved practices in the field, to provide best returns from regional investments,
- providing extension materials to inform staff and assist field staff in implementing an effective and economical backlog treatment program.

3. This component is incremental to the MOF mandate by virtue of the backlog program being the responsibility of Forest Renewal BC.

4. It has clear time-bound deliverables and performance measures, as the intent is to have all backlog sites under prescription by March 2002.

5. The planning process is transparent and will involve existing advisory groups such as Regional Forest Sector Initiatives Managers, Regional Forest practices team leaders, and MELP Habitat Section.

6. The Backlog Reforestation component relies on partnerships where these will strengthen project results. While largely a ministry responsibility, it is implemented by licensees where that is the appropriate mechanism for delivery. Partnerships among the Tree Improvement Program, licensees and ministries form a well-balanced and effective program.

7. This component of the HRMP contributes to Forest Renewal BC's return on investment criteria by providing one of the highest returns on capital expenditures. Reforestation of backlog areas provides both commercial forest growth on land that not presently not stocked with commercial trees, and provides options for future generations.

8. This component links to other RMP and HRMP components by providing the *Supporting Sustainable Forest Management* inventory databases component with updated inventory data as to the areas that are truly Not Sufficiently Stocked. Backlog reforestation is a necessary component in the objective of supporting sustainable forest management. The backlog program integrates with the Enhancing Environmental values objective by providing forest cover for other values.

9. Component leaders and project leaders will identify appropriate issues and strategies for the SFM objective by ongoing liaison with regional MOF and Forest Renewal BC staff. Deliverables in the next three years will build on past success and maintain public awareness of the necessity of the program.

Summary Table

Project	Project Status	Estimated cost for 01-02	Completion date	Priority
Backlog Reforestation	Continuing	421,000	2004	High
Seral Plant Community Descriptions.	New	$0	2004	Medium
Soil Rehab	New	$0	2004	
		$421,000		

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
Seral Plant Community Descriptions for Correlated Vegetation Guidelines in B.C.

Originators

Name(s):	H. Karen Yearsley, D. Meidinger	Organization:	Research Branch, B.C. MoF
Tel./ Fax:	387-3484 / 387-0046	E-mail:	karen.yearsley@gems6.gov.bc.ca

Project Summary

This project will generate provincially correlated descriptions of seral plant communities by structural stage. Such descriptions provide essential support for silviculture investment decisions to maintain or enhance habitat and timber supply and long-term biodiversity in second-growth forests.

Status

This project will use data analysis methods and templates previously developed to describe seral plant communities in the SBS zone. With HRMP funding, province-wide descriptions for the remaining zones could be completed in 3 years, otherwise no work will be done on this project.

Project Details:

Background

The Forest Practices Branch and forest industry require descriptions of seral plant communities for habitat and timber supply forecasting, habitat suitability modeling, and silviculture, stand management, and vegetation management prescriptions. Specifically, it is necessary to know how plant communities develop over the long-term, to project the management interventions (e.g., tree species and density, types and timing of treatments) required to achieve habitat supply targets at different seral stages. This information is linked to the effective utilization of PEM and SIBEC in stand, landscape and forest level modeling, provides verification for existing models (e.g., Prognosis EI), and is necessary for habitat suitability and capability modeling.

This project uses the Biogeoclimatic Ecosystem Classification (BEC) as a framework for ecologically-based descriptions of seral plant communities. Since BEC is the basis for forest management in B.C., this project will fill an important gap in the application of BEC to critical forest management problems.

The three-year project will focus on developing generalized descriptions for all BEC zones except the AT. Species composition and abundance will be used to characterize site associations at different structural stages.

Descriptions will be based on existing data, then verified through carefully targeted sampling. Sources of data include TEM, MELP (non-TEM), various special projects, BEC sampling, VRI, SIBEC, OGSI, TRENDS, EXPLORE, and Growth and Yield PSP's. Priority for supplementary data collection will be given to zones and site associations that have the most pressing vegetation management and habitat supply concerns. The descriptions will be refined and enhanced as new information becomes available.

The descriptions will be made available as an interactive web-based presentation that can be updated whenever new information is acquired.

Objectives

To produce, and publish on the internet, descriptions of seral plant communities by structural stage and site association, for most BEC zones over their provincial ranges.

Scope
Province-wide.

Clients
Major clients for this information are Forest Practices Branch (MoF), forest industry, and Ministry of Environment, Lands and Parks.

Decision/Ministry objectives supported
Supports silviculture investment decisions, habitat and timber supply analysis, land-use planning, application of PEM and biodiversity monitoring.

Deliverables:

March 2002 (Phase 1): Descriptions of seral plant communities by structural stage within the BEC framework (by site association), from existing seral data. Web-based, interactive presentation of the descriptions.

2003 - 2004 (Phase 2): Verification of descriptions through supplementary data collection. Descriptions revised accordingly.

Partners/Linkages:

Partners for this project include the forest industry (timber supply analysis), Ministry of Environment, Lands and Parks (wildlife capability and suitability, habitat supply modeling, measures of biodiversity), and Forest Practices Branch (habitat and timber supply modeling, brushing and other silvicultural investments, Prognosis EI model, PEM, SIBEC). The project will also involve the Habitat Supply Working Group (MoF, MoELP), and the Biodiversity Working Group (Industry, MoF, MoELP, NGO's) of the Forest Productivity Council in its planning process, and is closely linked to other projects such as PEM, SIBEC and habitat supply modeling proposals of the above advisory groups.

Consequence of Not Funding:

Failure to fund this project will result in a continued lack of adequate information essential to planning for silvicultural investments and forecasting habitat and timber supply.

Timing Constraints:

Project requires funding by April 2001.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
	$35,000*	$0	$250,000	$250,000	$500,000

*To conduct a pilot project to develop data analysis methods and templates to describe seral plant communities in the SBS zone.

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
FRBC Backlog NSR Reports, Plans, Guidelines, Monitoring and Procedures

Originator

Name(s):		Organization:	MoF, Forest Practices Branch
	Lorne Bedford (387-9001)	E-mail:	Lorne.Bedford@gems2.gov.bc.ca
	Jacob Boateng (387-9005)		Jacob.Boateng@gems2.gov.bc.ca
	John McClarnon (397-9003)		John.McClarnon@gems1.gov.bc.ca

Project Summary

This project will support informed decision making, improved field practices, development of extension materials, testing of models, improved safety, monitoring, strategy development, analysis of program investment, and effective and economical backlog treatments.

Accomplishments arising from this project will include: extension tours, workshops and notes providing recommendations on backlog treatments; properly calibrated and tested equipment for chemical site preparation and brushing; ensure healthy domestic sheep / dogs on silviculture grazing projects; a provincial summary of the status of the backlog landbase, an annually updated 5 year plan; cost guidelines for backlog treatments, and identification for areas of investment in problem forest types.

Status

Continuing

Project Details

Background

Many of the components of this project originally started under FRDA 1 and ministry / industry outstanding funding. In 1996 the Minister of Forests transferred all funding responsibility for the backlog program to FRBC. This project has been continued by FRBC to support the backlog NSR component. All deliverables within this project were specifically derived by FRBC from the five eligibility criteria in Section 3.1 (HRMP Component Eligibility Criteria) to meet informational needs and priorities in the RMP and HRMP processes. The development, refinement and implementation of guidelines, standards and procedures, performance measures, budget allocation process, monitoring, cost caps, and extension are key initiatives that are core requirements to the implementation of the Sustainable Harvest program.

Objectives

The objectives of this project include: dissemination of up-to-date information on backlog treatments; verification of the height intercept model; ensure spray system and safety features on spray aircraft are functional and meet government standards; ensure sheep vegetation management contractors confirm to the provincial animal health and related standards; provide an accurate provincial picture of the status of the backlog landbase; summarize projected annual goals and funding requirement over a 5 year period; provide estimates of net volume gains associated with backlog treatments and maximum expenditure guidelines; scope out opportunities for investment in problem forest types.

Scope

Local, regional, and provincial.

Clients

FRBC, MoF, MoELP, industry, independent researchers, colleges, and universities

Decision/ Ministry objectives supported

This project supports FRBC and the ministry's objective to ensure appropriate investments are made in the Backlog NSR program and effective, safe and economical treatments are implemented to achieve sustainable harvest objectives.

Outputs to date if continuing:

Tours of trial sites, tour manuals, extension notes, calibrated tested spray systems, reports on grazing projects, backlog reports prepared in 1997&1999, annual 5 year plans, report on problem forest type distribution, size, and investment opportunities.

Deliverables:

- Maintenance of FRDA 1 backlog trials , site tours, extension notes, verification of the height intercept model on site prepared sites Tours are scheduled on request. Extension notes and verification of height intercept model scheduled to be completed in 2001.
- Aerial herbicide spray system calibration and testing. Completed annually by first week of August.
- Sheep health inspection of selected forest-grazing sites by veterinarians. Completed annually by end of August.
- Summary report on the status of backlog land (expanded to include free growing). Next report to be published by May, 2001.
- 5 –Year backlog plan. Completed annually before year end.
- Cost guidelines for silviculture treatments. To be completed / implemented for 2001 field season.
- Backlog extension/ assistance / evaluation. Scheduled on request.
- Report on more detailed investigation of specific problem forest type investment opportunities. Next report to be completed by May, 2001.

Follow a Transparent Planning Process

Several components of this project are long established backlog program activities for which a planning process is not applicable (i.e. summary reports, 5-year plan, FRDA 1 trials, swath kit, sheep health). The cost guidelines and problem forest type reports will be developed in consultation with Regional Forest Practices Team Leaders, district staff, and relevant Research Branch and industry contacts.

Partners/linkages

The FRDA 1 trial maintenance and related extension notes and the development of cost guidelines involves partnerships with industry, independent researchers, colleges & universities. Industry contributes data for the summary report. The 5-year plan is developed from the RMP, which involves partnership between industry, MELP, and MoF. The summary report requires industry involvement. The sheep health program involves a partnership with MAFF (Animal Health Unit), MELP (Wildlife Habitat Staff), sheep producers, and the sheep grazing contractors. The swath kit tests are done in partnership with the aerial spray applicators.

Consequences of Not Funding

The deliverables in this project are core to the successful implementation of FRBC's Backlog program. Not funding this project would mean that FRBC would make investments in Backlog activities without information on the overall return on investment and without assurances that treatments were appropriate to meet sustainable harvest objectives.

Timing Constraints

This project must commence on April 1, 2001 to enable timely completion of deliverables to guide backlog investments.

Past Investment and Proposed FRBC Budget

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
$421,000		$421,000	$421,000	$421,000	$1,263,000

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (to be assigned)

Project Name:
Soil Rehabilitation: Monitoring Plots and Database

Originator:

Name: Chuck Bulmer Organization: Research Branch, Min of Forests
Telephone: 250-260-4765 Fax: 250-542-2230 E-mail:chuck.bulmer@gems8.gov.bc.ca

Project Summary

Soil rehabilitation contributes to the timber supply by increasing productivity on degraded lands, and by converting non-productive land to commercial forest. Each year, soil rehabilitation efforts throughout BC could prevent the loss of an estimated 3000 hectares (2 percent of the harvested area) that would otherwise be left as seldom-used access structures until the next harvest. Although soil rehabilitation also enhances environmental and aesthetic values, the main intent is to grow trees. Unfortunately, monitoring of establishment success, early stand development, and productivity seldom occurs on rehabilitated lands, and no mechanism exists to collate information from monitoring efforts that are undertaken. This project will establish permanent monitoring plots on rehabilitated roads and landings in a variety of biogeoclimatic zones, and incorporate information on tree growth and early stand development into a provincial database for rehabilitated sites. The work supports HRMP component 3.1.1.

Status

The work is new to this program.

Project Details:

Background

Results of previous studies indicate that tree survival and growth is often good on rehabilitated lands. These results were obtained for operational soil rehabilitation carried out in the ICH zone in four forest districts. However, the extent to which the information can be generalized for Timber Supply Reviews (TSR) in other biogeoclimatic zones is unknown. Recent investments by Forest Renewal BC, and requirements in the Forest Practices Code (FPC), have substantially increased the amount of land in rehabilitated structures, and the productivity on such structures has recently been of interest in several TSR's (e.g. Okanagan, Kamloops TSA). In anticipation of continued needs for information on the productivity of abandoned and rehabilitated roads and landings, this project will establish permanent sample plots on rehabilitated areas, develop a provincial database of sites for periodic measurement in the future, and collate / analyze / report on the results.

This project is incremental to the Ministry mandate because we do not have the resources available to address this topic area at an accelerated rate. Only recently has the productivity of abandoned and rehabilitated roads and landings become of interest in the TSR process.

Objectives

1. To establish monitoring plots to evaluate establishment success, stand development, and productivity on rehabilitated roads and landings,
2. To develop a provincial database to organize and distribute information from permanent plots established on rehabilitated sites.

Scope

Provincial

Clients

Chief Forester, Regions, Districts, licensees (including SBFEP). Specifically included: Dawson Creek District, Weyerhaeser (Kamloops), Salmon Arm District (George Zorn).
Districts, regions, and industry will be able to use the resulting data in the TSR process.

Decision/Ministry objectives supported

Timber Supply Review
Forest Practices Code soil conservation / rehabilitation measures

Outputs to date

This is a new project

Deliverables

We anticipate establishing plots for three years, and keeping to approximately the same schedule each year. The following timeline and set of deliverables applies to work planned for the BWBS (Dawson Creek District) and SBS (Prince George) in 2001-02:

1. Establish and measure plots (completed by October 30, 2001)
2. Data summaries outlining stocking rates and early growth (completed by Jan 31, 2002)
3. Database: raw data and maps archived for future measurements (completed by Jan 31, 2002)
4. Annual report (completed by Mar 31, 2002)

In 2002-03, plots will be established in the IDF (Cariboo Region) and MS (Kamloops)
In 2003-04, plots will be established in the ICH and SBS (Prince Rupert).

Partners/Linkages (listed names are confirmed for planned work in summer 2001):

This work is linked to efforts by the Site Productivity Working Group aimed at determining under what conditions growth intercept models work.
Forest Regions: Kamloops (G. Hope), Cariboo (B. Chapman), Prince George (P. Sanborn)
Forest Districts: Dawson Creek (P. Gevatkoff), Salmon Arm
Licensees: Lignum (Williams Lake) Weyerhaeser (Kamloops), Slocan (Vavenby) , PIR (Smithers).
SIFERP (Kathie Swift)

Consequence of Not Funding

1. Timber supply reviews will be denied access to information regarding expected productivity for rehabilitated access structures, which could affect AAC by 1-2 percent.
2. FPC soil conservation /rehabilitation requirements will face increased scrutiny due to cost driver pressures. This project will help to justify or fine-tune requirements.
3. Forest Renewal BC will be denied information on the effectiveness of past and future investments in soil rehabilitation.

Timing Constraints

The best start date would be May 1, 2001. Field data collection is restricted May – Oct. Lead time is required to review records, review potential plot locations, and prepare for field season.

Past Investment and Proposed FRBC Budget

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other (MoF)	01-02	02-03	03-04	
		0	60,000	60,000	120,000

SUSTAINABLE HARVEST

3.1.3 – HABITAT/BIODIVERSITY MONITORING COMPONENT

PROJECT PROPOSALS

TABLE OF CONTENTS

FRBC HABITAT/BIODIVERSITY MONITORING COMPONENT VISION 2

PROJECTS:

CONSERVATION ASSESSMENTS FOR SPECIES AT RISK 5

HABITAT/ECOSYSTEM MODELING AS INPUT TO FOREST-LEVEL ANALYSIS 7

DEVELOPMENT OF GUIDELINES AND STANDARDS FOR HABITAT/BIODIVERSITY VALUES – IDENTIFIED WILDLIFE FORAGE TRIALS 10

EVALUATION AND MONITORING PROGRAM 12

REGIONAL EFFECTIVENESS MONITORING PLANS FOR SUSTAINABLE HARVEST ACTIVITIES MEETING BIODIVERSITY/HABITAT OBJECTIVES. 15

FOREST STEWARDSHIP SKILLS TRAINING 17

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

SUSTAINABLE HARVEST STRATEGIC OBJECTIVE – FRBC HABITAT/BIODIVERSITY MONITORING COMPONENT VISION

Component Leader:

Name:	Mike Fenger
Organization:	MELP
Telephone & Fax:	387-9779
Email:	Mike.Fenger@gems3.gov.bc.ca

Purpose

- To maintain biodiversity while continuing to harvest.
- To ensure that environmental assessment information and risks of loss of biodiversity and selected single species is provided.
- To inform silviculture and harvest decisions regarding sustaining environmental values. Where there are significant risks and uncertainties regarding sustaining environmental values recommend mitigative or other measures to reduce risk and uncertainty. Mitigative measures may includes maintenance or enhancements of structural and compositional diversity of forests, training, recommendations for research and inventory in support of sustaining harvests and biodiversity.

Target

- Ensure environmental values are adequately sustained when decisions are taken on investments that increase the value or volume of timber by providing information on environmental impacts and risk to environmental values.
- When measures are proposed , such as increasing the timber harvest landbase, restocking following natural disturbances, etc. also contain sufficient measures to maintain structural and compositional diversity.
- Improve investment decisions through development of decision support tools and extension of information on environmental values.
- Complete and report on environmental values for all strategic assessments conducted for sustainable harvest (Type 1 and 2 assessments) and indicate where there may be measures needed to sustain coarse and fine filter conservation elements through silviculture investments.
- Provide an operational framework for evaluation and monitoring of biodiversity values

Peer Group

Habitat Modelling Steering Committee/Biodiversity Working Group

Eligibility Criteria

Currently the Ministry of Environment, Lands & Parks is not involved in examining the value of young forests on habitat, or the effects of converting much of the landbase to young forest. They are still focussed on old growth as a habitat at risk. This component stresses the need to ask the questions, What effect do incremental silvicultural practices have on ecosystems and species habitat? and How can incremental silvicultural practices be used to create habitat and encourage biodiversity? This is outside the traditional role of the Ministry of Environment, Lands & Parks.

Linkages

The two primary partners in these projects are the Ministry of Environment, Lands & Parks and the Ministry of Forests. However, links are made where appropriate, to MYA holders, academia and other stakeholders.

Issues and Strategies

- Assess current measures for maintaining species at risk.
- Increase the knowledge and use of habitat models in management scenarios
- Improve guidelines to achieve habitat/biodiversity objectives
- Assess effectiveness of current practices to maintain stand and landscape biodiversity.

Summary Table 1: Sustainable Harvesting Biodiversity/monitoring component (Initial Requests)

Project or Issue	Project Status	Estimated Cost for 01/02	Completion Date	Priority
Habitat/ecosystem modelling	On going	205,000	03-04	
Regional effectiveness monitoring plans	New Total 30,000	10,000	03-04	
Grizzly Forage trials	On going and new Total 297,322	89, 402	03-04	
Species at Risk Assessment	New Total 200,000	50,000	03-04	
Forest stewardship training	New Total 780,000	360,000	03-04	
Old growth attributes Information	New Total 650,000	150,000	03-04	
Biodiversity evaluation and monitoring	New Total 910,000	270,000	03-04	
	2,867,322	$1,214,402		

Review of these projects and discussion during the first week of October, 2000 with other component leaders and project proponents lead to the following decisions:

- Old growth attribute information was moved to SFM baseline component
- Species at risk assessment was moved to the SFM (component uncertain Benefits?)
- Training would need to be taken forward on it's own merits but supported for scope and feasibility.
- The remaining proposals show priorities and are at a funding level of $600,000.

Summary Table 2: Sustainable Harvesting Biodiversity/monitoring component (initial estimates adjusted to a budget of $600,000)

Project or Issue	Project Status	Completion Date	Budget to $600,000 01-02
Habitat/ecosystem modeling & strategy	On going	03-04	294,402
Regional effectiveness monitoring plans	New Total 30,000	03-04	10,000
Forest stewardship training	New Total 780,000	03-04	25,000 *
Biodiversity evaluation and monitoring	New Total 910,000	03-04	270,000
	2,017,322		$599,402

* Some training packages could be developed after scoping and partners clarified.

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
Conservation assessments for species at risk

Originators:

Name(s): Kathy Paige Organization: Wildlife Branch, MELP
Tel./Fax: (250) 356-7788 / (250) 356-9145 E-mail Address: Kathy.Paige@gems4.gov.bc.ca

Project Summary

The purpose of this project is to complete environmental assessments for forest dependent species at risk in British Columbia. These assessments are needed to evaluate the effectiveness of forest practices and land uses within the range of species at risk (e.g., parks, Forest Practices Code) in order to determine the adequacy of these measure for sustaining species at risk and other possible mitigating measures that could be undertaken..

This project contributes important new information to land use planning initiatives, timber supply reviews and forest development approval decisions. These project will support the to the strategic objectives of Forest Renewal and its partners as it supports the objective to ensure that harvesting is carried out in a manner that sustain the rich biological legacy in British Columbia. It does so by providing information that may be used in the management or recovery of species at risk as well as providing information to regional (Land and Resource Management Plans) or landscape level planning.

Status

This is a new project but will tie into existing research and inventory.

Project Details:

Background
Currently there are many land use designations and forest practices that are designed to maintain biodiversity with much emphasis on wildlife (vertebrates) particularly those that are considered to be at risk. In other jurisdictions, conservation assessments have been used to determine the adequacy of current measures for protection of individual species as well as recommending further protection is required where these are warranted. The Ministry is not required and currently does not prepare habitat based conservation assessments nor does it have the capabilities to do such detailed assessments.

Objectives
The objective of this project is to develop a method and template for habitat conservation assessments in British Columbia. Once this is done the method and template will be used to prepare detailed conservation assessments including spatial data (GIS based) for species at risk.

Scope
Provincial

Clients
Interested public, industry, government, NGOs

Decision/Ministry objectives supported

Outputs to date if continuing
NA

Deliverables:

1. Development of method and data requirements and template for conservation assessments	Year 1	June 2001
2. Compilation of required data for completing conservation assessments (e.g., GIS input/output maps) testing of method and refinement.	Year 1 and 2	June 2002
3. Conservation assessments for at least 10 species at risk	Year 2 and 3	June 2004

Partners/Linkages:

The main partnership will be with Ministry of Forests but academia and stakeholders (including industry and NGOs) will be provided an opportunity to be involved in this project. Ministry of Forests will be a key partner in providing staff and expertise to assist in the development of the methodology and assessments. Academia and stakeholders will be provided the opportunity to review and provide comments on all aspects of the methodology and assessments. All comments will be carefully considered to ensure that the method is technically defensible.

Consequence of Not Funding:

The sustainability of current practices and the measures needed to sustain species at risk will not be clear. Without this level of understanding provincially, there of loss of market share for our forest products> It will be necessary to demonstrate how well our practices address this important element of conservation and how we fulfil our commitment to responsible stewardship. Without some action there is a risk that that the role of managing for endangered species including assessments will become a Federal responsibility under the new Federal Species At Risk Act (SARA)

Timing Constraints:

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
	40 000	0	50 000	100 000	150 000

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
Habitat/Ecosystem Modeling as Input to Forest-Level Analysis

Originators:

Name(s):	Mike Fenger/Ralph Winter	Organization:	MELP/MOF
Tel. / Fax:	MF:387-9779	E-mail:	Mike.Fenger@gems3.gov.bc.ca
	RW: 387-8906		Ralph.Winter@gems9.gov.bc.ca

Project Summary

Silviculture strategies have traditionally been focused on increasing the potential timber from a management unit. This is still an important focus, but it is recognized by FRBC that increased timber production is not acceptable if biodiversity values must be traded to attain this goal. This initiative looks at the habitat and ecosystem side of silviculture practices. It develops and extends tools and strategies to address the habitat and ecosystem concerns associated with intensive forest management.

Status

Continuing

Project Details:

Background:

Workshop based and analysis based strategies for silvicultural investments have been completed for much of the province using FRBC funding. The consequences to biodiversity of the proposed silvicultural activities were also examined with FRBC funding. Opportunities to directly benefit habitat or to mitigate potentially negative impacts to habitat/ecosystems have been recognized during the development of most of these strategies. These opportunities are supported by habitat modeling at both the species level and the ecosystem level.

Traditionally MELP has focussed on old growth and the species supported by old growth. The silvicultural strategies are directed at managed forests. Without funding from FRBC, the ability to determine the consequences of silvicultural activities on biodiversity is limited.

Objectives:

- To develop a provincial Habitat / Biodiversity modelling strategy to guide future initiatives and FRBC investments.
- To facilitate the dispersal of information on the components and uses of known habitat models.
- To conduct detailed habitat supply evaluations (Type 3) in three management units in the province.
- To ensure that habitat/ecosystem modeling is included in each workshop and analysis based strategy in the province.

Scope:

Provincial

Clients:

Licensee and ministry silviculturalists; research community; planners

Decision/Ministry objectives supported:

MELP objectives addressed:

1) Protect, maintain and restore the diversity of BC's ecosystems and landscapes, native wildlife species and their habitats,
2) Reduce the risk of harm to the environment and to people and property from natural and induced events,
3) Support job growth and sustainable employment with innovative environmental management and sustainable resource use.

All five goals of the Habitat Branch Program are addressed:

1) Maintain the diversity of habitats and ecosystems;
2) Maintain threatened and endangered habitats, and the habitats of rare and endangered species;
3) Advocate resource management alternatives that favor ecological integrity;
4) Support, enhance and share an ecological knowledge base; and
5) Promote the understanding of ecological principles through communication and education.

Outputs to date if continuing:

- Tested habitat supply evaluation using Predictive Ecosystem Mapping in Arrow TSA; completed and validated habitat relations databases for all terrestrial vertebrates and selected fish in the Columbia River basin in BC; mapped species ranges and wildlife habitat types in the Columbia Basin; compared habitat supply analysis using these databases to PEM- and forest cover-based analyses in Arrow TSA
- Design of the Habitat Supply web site with links to Type 1 and Type 2 products and other habitat supply information within BC and elsewhere
- Habitat supply model survey completed and posted on the web site
- Workshop planned for February, 2001
- Compilation of species-habitat models appropriate for BC species – posted on web site
- Description of available variables on FIP files – posted on web

Deliverables:

Comparison of stand structures in managed and naturally disturbed landscapes using best available stand models.	March 2002
Complete the Type 3 silvicultural strategy for the Arrow TSA.	March 2002
Initiate and complete a Type 3 silviculture strategy for a coastal management unit.	March 2003
Initiate and complete a Type 3 silviculture strategy in a northern interior management unit.	March 2004
Extend the analysis of ecosystem function piloted in the Robson Valley	4 completed March 2002 4 completed March 2003 4 completed March 2004
Prepare a report on the habitat components of each of the Type 1 and 2 Silviculture Strategies for the province. Identify the units that need additional work.	March 2002
Upgrade the silviculture strategies where needed.	March 2003
Training and extension of new Habitat Supply Modelling approaches, information, procedures and standards	As completed
Establish a protocol for documentation of habitat supply models, establish criteria and procedures for testing and evaluating habitat supply models and their application. Extension of all information on the Habitat Modeling Webpage	As completed
Assessment of modeling needs within the province. Development of a strategy for future Habitat / Biodiversity modelling and development work. Leading the development of new models and approaches to meet user needs.	March 2002
Assess Forest Practices Code in terms of our current ability to model ecological impacts over the short, mid and long term.	March 2002
Analysis of dead tree data collected on permanent sample plots to provide further information for models and to assess adequacy of information.	March 2002
Update website as necessary	continuous

Partners/Linkages:

MOF, MELP, Forest Productivity Council Biodiversity Working Group, Habitat Modeling Steering Committee (HMSC)
The HMSC was formed last year to integrate the habitat modeling initiatives funded by FRBC with the work being done in MOF and MELP throughout the province. It provided a forum for information and has helped identify some gaps in both knowledge and availability of knowledge. The projects represented by this funding request will continue to increase the knowledge of all interministry partners and to extend this knowledge via the Habitat Website. The HMSC will continue to eliminate duplication and to direct resources toward common goals.

Several members of the HMSC are also members of the Biodiversity Working Group which provides both groups with a clearer understanding of the direction and mandate of each other.

At least one of the detailed Type 3 strategies will be developed in partnership with a Tree Farm License holder.

Consequence of Not Funding:

Without funding, the environmental implications of silvicultural practices will be more difficult to identify and evaluate. Information that is currently known will not be as readily available to those who could benefit from knowledge of available models or the inputs to those models.

Timing Constraints:

Each management unit (TFL and TSA) has been tasked with developing a 5-year incremental silviculture strategy. The information and tools that are extended as a result of these proposed activities will help maintain or augment the array of biodiversity values in second growth forests.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
$140 000	$27 000	294,402	175,000	115,000	584,402

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
Development of Guidelines and Standards for Habitat/Biodiversity Values – Identified Wildlife Forage Trials

Originators:

Name: Colene Wood Organization: MELP Habitat Branch
Telephone: 250-356-5538 E-MAIL: CWood@Victoria1.gov.bc.ca
With input from Gerry Fox, MELP, Kootenay Region, and Bob Brade, FES, Revelstoke FD.

Project Summary:

Project supports the recently released Establishment to Free Growing Standards (ie, Stocking Standards), by continuing work on the coast and establishing trials in the interior wet belt for Grizzly Bear forage. The project also expands work to include other wildlife species, such as, trials to enhance habitat for Mountain Caribou. Results will help alleviate the conflicts between the need for long term supply of habitat and continued timber harvest from alluvial floodplains, seepage ecosystems, and other ecosystems highly suitable for identified wildlife.

Status

Continuing work for Grizzly Bears. Continuing development of standards. Initiating work for other identified wildlife species, all related to habitat enhancement in second growth forests.

Project Details:

Background

The Identified Wildlife Management Strategy has been implemented. There are opportunities to use incremental silviculture treatments to manage habitat to meet IWMS and Landscape Unit objectives for forage production. Field trials and analysis are required to develop and support guidelines for incremental silviculture activities. For instance, Mountain Caribou need open stands to avoid predators, find suitable forage and move through the forest for feeding and migrating. With a large and increasing percentage of forests being converted to early seral stages, we need techniques to mitigate habitat suitability issues.

Objectives

Conduct field trials, using adaptive management principles, to compare spacing densities, assess forage production (quantity and quality), and recommend standards for clearcuts, partial cuts, and retention cuts. Improve guidelines and associated standards to achieve habitat/biodiversity objectives for sustainable forest management for timber and non-timber values.

Scope

Provincial application. Produces regionally specific guidelines, building on current guidelines. Brings together work that has previously been conducted by headquarters, regions and MYA Holders.

Clients

Licensee and ministries planners and prescribing foresters, FRBC investment managers. Existing advisory groups for IWMS will be consulted and are clients.

Decision/Ministry objectives supported

Grizzly Bear and other identified wildlife objectives stated in higher level and strategic plans (eg, Grizzly Bear Conservation Strategy (GBCS), Identified Wildlife Management Strategy (IWMS), etc.). Results will influence TSR decisions and silviculture investment decisions. Will affect threatened and endangered species policy and legislation. Ministry Of Environment, Lands & Parks is primarily mandated to focus on pre-harvest stand

conditions. Enhanced Forestry activities that are funded by Forest Renewal BC broaden the scope to young forests which is beyond the current ministry mandate.

Outputs to date if continuing

Established 18 trials over 280 ha 1992-1997 in the CWH Zone of Vancouver and Prince Rupert Forest Regions. Work in 1999 recommended determined 10 trials for continued monitoring. Previous funding came from FRDA, HSP, MoF, GBCS and FRBC. Work on standards has been progressing since 99/00.

Deliverables

Monitoring results of Grizzly Bear trials	2001/02; 2002/03
Establishment of new trials	2001/02; 2002/03; 2003/04
Recommendations for new standards	2002/03
Ongoing revisions to standards	2001/02 and following years
Extension of information	2001/02 and ongoing

Partners/Linkages

IFPA/EFMPP MYA holders, MoF and MELP. Links with several ongoing and proposed projects related to habitat supply modeling. Some possibility of shared funding at the regional level through MYA Holder funding.

Consequence of Not Funding

FRBC and other investments will gradually be lost as the opportunities for remeasurement are reduced over time. Many opportunities for meeting habitat supply/biodiversity objectives with incremental silviculture activities will be lost. Pressures to protect areas for forage production (i.e., exclude timber harvesting) will increase, and a corresponding effect on timber supply is to be expected. Imposition of federal legislation (*Species at Risk Act*) measures will increase as habitat decreases.

Timing Constraints

ASAP as standards have been released for the coast and trial remeasurement is over due (so as to not to lose previous investment). The list of priority Landscape Units is being revised, estimated completion by January 2001. Initiation of work in the interior is necessary, as standards cannot be recommended without field trial verification. Monitoring needs to continue over time to substantiate the benefits related to the standards, and track the effectiveness of treatments.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
60,000 (developing standards) +	Information n/a at this time – substantial investments	0	95,000	112,920	207,920

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
Evaluation and Monitoring Program

Effectiveness monitoring/evaluation of forest practices and plans related to balancing the conservation of stand and landscape-level biodiversity values (and other non-timber resources) with the harvesting of timber.

Originators:

Name:	Peter Bradford / Mike Fenger	Organization:	MoF, Forest Practices, MELP, Habitat
Tel./Fax:	250 387 2134 / 250 387 1467	E-MAIL:	Peter.Bradford@gems1.gov.bc.ca

Project Summary

This proposal establishes an evaluation and monitoring program for the development and implementation of methods to evaluate and monitor the effectiveness of current forest practices (policies, standards and procedures) and of plans in sustaining stand- and landscape-level biodiversity values (including other non-timber resources) and in attaining sustainable timber harvesting objectives. The results of effectiveness evaluations and monitoring will be used to:

- Provide a provincial assessment and overview of the effectiveness of forest practices designed to conserve stand- and landscape-level biodiversity and to provide a measure of risk to biodiversity.
- Identify critical information/knowledge gaps (forest and wildlife workers and managers, researchers, and the public).
- Confirm and/or modify existing forest policies, guidelines and standards, or develop new forest practices to improve sustainable forest management for biodiversity and to achieve a sustainable timber harvest.
- Advance and communicate new knowledge from monitoring that will confirm or modify strategic plans and decisions on biodiversity and stand structure.
- Strengthen partnerships among MOF, MELP, Forest Renewal BC and industry by providing information on which to reach consensus and focus on biodiversity and stand structure objectives.

As a result, the evaluation and monitoring program will:

- Support the development of strategic resource planning and decision-making information necessary for the confirmation or modification of current forest practices (policies, standards and procedures) on biodiversity and stand structure, and,
- Assist in the attainment of sustainable harvests through better informed silvicultural decisions.

Status

New

Project Details:

Background

In recent years, there has been considerable emphasis on achieving a balance between conserving biodiversity (and other non-timber resources) and harvesting timber. In order to achieve this balance, initiatives such as landscape unit planning have been implemented across the province. Retention of wildlife trees within harvested areas and the increased use of partial cutting are other examples incorporating non-timber values into our forest management practices. Effectiveness monitoring will provide new insight into what is the balance needed both to conserve biodiversity while continuing to harvest timber and to plan our second-growth management.

In order to ensure that initiatives such landscape unit planning, wildlife tree retention and partial cutting, among other forest practices, are in fact providing a biologically effective and cost-efficient balance between biodiversity conservation and timber harvesting, a program of evaluation and monitoring must be established to assess effectiveness. This evaluation and monitoring program must result in specific recommendations for the continual improvement of forest practices with the goal of achieving balanced sustainable forest management and timber harvests in British Columbia.

The initiatives in this proposal are in response to FRBC program needs. Individual projects are focused on at least one FRBC strategic objective. The implementation of this proposal will assist in achieving overall FRBC program goals.

The projects in this proposal are new with no previous funding. However, as with all new projects, there is some overlap with previous Ministry initiatives. For example, the industry client group has repeatedly requested increased analysis of existing and new forest management policy impacts and effectiveness. In recent years, these requests have increased. Although some minor work in this area has been done in the past; delivering on these requests in a comprehensive manner are well beyond the current ability of the government.

Objectives

1. The development and implementation of an evaluation and monitoring program to assess the effectiveness of current forest practices and to ensure biologically appropriate and cost-effective achievement of strategic planning and management objectives through the confirmation or modification of existing forest practices.
2. The provision of information necessary for the modification of strategic silviculture and timber supply planning and, as a consequence, for the projection of sustainable timber harvests.

Scope

Provincial

Clients/Partnerships:

Forest and wildlife managers, planners and workers in government and industry, educators, and researchers. All partners will be encouraged to participate in the design, development and implementation of individual projects where their mandates deem this involvement would be appropriate.

Decision/Ministry objectives supported

Yes

Outputs to date if continuing

N/A

Deliverables:

The key deliverable is the development of the evaluation and monitoring program (terms of reference and detailed project design and management plans) to assess effectiveness of forest practices in the following key areas:

- *Landscape unit planning* (development of a decision-support tool to determine the effectiveness of landscape unit planning in sustaining biodiversity values while setting objectives for old-growth management areas and for wildlife tree retention. Includes protocols for monitoring methods, designs for comparisons among landscape units, and pilot testing of methods in the field) – July 31, 2001.
- *Stand-level biodiversity practices* (development of a decision-support tool to determine if current stand-level practices will result in the long-term economic and ecological sustainability of selected indicators of biodiversity) – June 30, 2001.
- *Range management in ecologically sensitive forested areas* (assessment to determine if current practices are sustaining biodiversity within current planning objectives) – March 31, 2002.
- *Partial cutting post-harvest stand structure* (to assess the long-term sustainability of biodiversity values within second-growth stands originating from partially cut old-growth forests harvested to current practices and standards, e.g., variable retention) – June 30, 2001.

The first-year delivery of the evaluation and monitoring program to assess effectiveness for the above key forest management areas will be achieved by March 31, 2002.

Partners/Linkages:

Partners to this proposal are the Ministry of Forests (branch, regional and district levels), Ministry of Environment, Lands and Parks (branch and regional) and the forest industry. In addition, this proposal will be tightly linked to, and co-ordinate with, other Forest Renewal BC initiatives such as the use of growth-and-yield tools (i.e. prognosis), sustainable harvest training and the proposed project named "Old Growth Biodiversity Attribute Information by BEC Variant".

Consequence of Not Funding:

Continued timber harvesting will become increasingly problematic without systematic reporting on the effectiveness of forest practices in sustaining biodiversity values. Over the longer term, consequences might be unsustainable timber harvests, degraded biodiversity and lost Crown and industry revenues owing to the continued application of less economically efficient forest practices. In addition, the long-term stand-structure implications of current partial cutting practices will remain unknown, resulting in potential long-term economic and biological impacts. The main point is that the severity of any negative consequences of not funding this proposal will remain unknown unless current forest practices are adequately evaluated and monitored.

Timing Constraints:

Start March 31, 2001.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
		270,000	390,000	250,000	910,000

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
Regional Effectiveness Monitoring Plans for Sustainable Harvest Activities Meeting Biodiversity/Habitat Objectives.

Originators:

Name: Colene Wood
Telephone: 250-356-5538
Organization: MELP Habitat Branch
E-MAIL: CWood@Victoria1.gov.bc.ca

Project Summary

Effectiveness monitoring is an essential component of managing forests. Project will produce 5-year regional level plans for conducting effectiveness monitoring that measures the achievement of habitat/biodiversity objectives in young forests. Should include monitoring objectives, implementation schedule, required resources and reporting. Should link to monitoring of non-habitat/biodiversity objectives. The plans will guide regional operations.

Status

New project concept that builds on existing work.

Project Details

Background

A monitoring framework has been developed and tested. There is a need for communication of this product, and promotion of monitoring as a tool to measure the effectiveness of incremental silviculture treatments. Regions have not been able to build support for monitoring amongst the MYA holders, and provincial impetus is necessary. Monitoring the effects of treatments on habitat/biodiversity is incremental to the ministry's mandate.

Objectives

Produce a regional plan that reflects the level of investment to date, and the overall opportunities for enhancing habitat supply/biodiversity.

Scope

Regional application of provincial initiative. Advisory groups will be established with provincial, regional and district representation, as well as MYA Holder representation.

Clients

Licensee and ministries planners, FRBC investment managers.

Decision/Ministry objectives supported

Links to meeting objectives in higher level and strategic plans; provides rationale for current operations, RMP and investment planning; needed to support TSR decisions.

Outputs to date if continuing

Framework has been developed and tested 97/98 to 99/00. Regional staff *has not* been successful in dedicating regional FRBC funds to developing plans.

Deliverables

Plan for 2 regions each year, upon which corresponding regional RMP submissions should cover the actual monitoring.

Partners/Linkages:

MYA holders, MoF and MELP. Links with MoF projects to monitor for effectiveness of treatments in meeting timber objectives. Will link specifically with broader monitoring project in this component, in Enhanced Forestry component, and with work in SSFM. Regional RMPs will cover the monitoring as indicated in the plan (project output).

Consequence of Not Funding

FRBC will continue to make investments, without the assurance that the treatments are effective. Many opportunities for meeting habitat supply/biodiversity objectives with incremental silviculture activities will be lost or mis-directed, and a corresponding effect on timber supply is to be expected.

Timing Constraints

Need to work within the FRBC planning schedule.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
90,000		10,000	10,000	10,000	30,000

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
Forest stewardship Skills Training

Originators:

Name(s): Peter Bradford/Stewart Guy
Organization: Forest Practices Branch/Habitat Branch
Telephone 356-2134Fax: 356-5909 E-mail Address: Peter.Bradford@gems1.gov.bc.ca

Project Summary

This project is the development and implementation of several training initiatives related to field practices, which will advance new learning and enhance existing knowledge of sustainable forest management. This initiative will result in improved resource planning and decision-making, and develop new management tools/techniques and promote forestland stewardship. In part, the development of these training initiatives will be based on the lessons learned, and information gaps identified, by effectiveness evaluation and monitoring of current forest practices.

Status:

New

Project Details:

Background:

Skill and knowledge requirements for forest stewardship have increased dramatically in the last few years. With the increased emphasis on achieving a balance between conserving biodiversity (and other non-timber resources) and harvesting timber, many forest managers and workers do not yet have the knowledge or skill set to adequately meet these new stewardship responsibilities.

Properly designed and targeted forest stewardship training is the quickest, most cost efficient, and ecologically effective method to ensure forest managers, planners and workers are prepared for the responsibility of managing for environmental stewardship as well as timber values. These training initiatives will help forest managers; workers and planners gain the skills required to ensure biologically appropriate and cost effective achievement of resource management goals and objectives.

The initiatives in this proposal are in response to FRBC program needs. Each individual project is focused on at least one FRBC strategic objective. The implementation of this proposal will assist in achieving overall FRBC program goals.

The majority of projects in this proposal are new with no previous funding. Where projects are not completely knew (ex. Stand and landscape-level biodiversity training for forest managers and planners), it is considered beyond the capacity of the Ministry to carry on the training. Furthermore, any project in this proposal which had received any previous funding is currently out of date and not suitable for current training needs.

Objectives:

This training program will result in targeted skills-specific training for forest workers, managers and planners which will, in turn, provide for the continual improvement of forest practices with the goal of achieving balanced, sustainable forest management in British Columbia.

Scope:
Provincial

Clients:
Forest managers, workers, and planners

Decision/Ministry objectives supported:
Yes

Outputs to date if continuing:
N/A

Deliverables:

- Landscape unit training (focus on monitoring mitigating operational cost impacts, new policy provisions) – March 31, 2002
- Stand and landscape-level biodiversity training for forest managers and planners – March 31, 2002
- Forest stewardship training for forest workers -- development and pilot delivery by March 31, 2002 (refinement and province wide delivery in years two and three)
- Remedial measures for range impacts on riparian areas – March 31, 2002
- Forested-range plant community and soils training – March 31, 2002
- Partial cutting skills development – March 31, 2002

Partners:

FRBC, Ministry of Forests, Ministry of Environment, Lands and Parks, labour (and other forest worker clients) and the forest industry. Partners will be involved in various aspects of individual projects. For example, the Forest stewardship training for forest workers initiative will seek partnerships with industry, forest worker clients, FRBC and the two resource agencies to steer the design and development of training. Furthermore, where possible, industry and labour will be closely involved in the actual training delivery. A similar level of partnership involvement will be undertaken with the other initiatives.

Consequence of Not Funding:

Forest managers, planners and workers will not have the advanced skills required to manage for environmental stewardship values as well as timber values. Stewardship objectives will not be realized.

Timing Constraints:

Start April 1, 2001.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
	$150,000	25,000	315,000	105,000	445,000

SUSTAINABLE HARVEST

3.1.5 – FOREST LEVEL ANALYSIS FOR SILVICULTURE INVESTMENTS COMPONENT

PROJECT PROPOSALS

TABLE OF CONTENTS

FRBC FOREST LEVEL ANALYSIS FOR SILVICULTURE INVESTMENTS VISION 2

PROJECT:

FOREST LEVEL ANALYSIS FOR SILVICULTURE INVESTMENTS 4

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

SUSTAINABLE HARVEST STRATEGIC OBJECTIVE–
FRBC FOREST LEVEL ANALYSIS FOR SILVICULTURE INVESTMENTS
COMPONENT VISION

Component Leader:

Name: Ralph Winter
Organization: Ministry of Forests, Forest Practices Branch
Telephone & Fax: (250) 387-8906 (250) 387-2136
Email: ralph.winter@gems9.gov.bc.ca

Vision

The vision for this component is:

> *to achieve the public's social, environmental, and economic objectives, BC will achieve a world-class level of strategic silviculture planning.*

This component (Forest Level Analysis For Silviculture Investments) is required if Forest Renewal is to meet their Sustainable Harvest Strategic Objective. For each management unit in the province, this component provides the strategic plans (silviculture strategies) that identify the program of silviculture activities that should be funded by FRBC to achieve the Sustainable Harvest Strategic Objective.

This component achieves the FRBC performance measure to "have forest level strategic plans in 100 % of the management units." These silviculture strategies are critical input to the SH components of the RMP in each region. In addition, the silviculture strategies produced in this component list critical gaps in knowledge, data, and decision-support tools. These lists should be used to guide the SSFM component of the HRMP. Furthermore, it is in the analyses that are used to develop the silviculture strategies that many of the new decision-support tools and inventory information from SSFM are first applied.

Silviculture strategies ensure that Forest Renewal's investments in silviculture are directed toward achieving its strategic objectives – effectively and economically.

This component satisfies all of the eligibility criteria, performance targets and linkage requirements as follows.

1. This component will increase the timber available for potential harvest by developing new provincial, regional and management unit silviculture strategies.

2. This component facilitates the wise placement of regional investments by providing a strategic tool to focus efforts on those treatments and areas that will contribute most significantly to the achievement of sustainable harvest objectives.

3. It is incremental to the MOF mandate by virtue of focussing its efforts exclusively on Forest Renewal BC funded work.

4. Deliverables include six new Type 2 management unit strategies per year, six updated Type 1 management unit strategies per year, plus regional and provincial strategies.

5. The planning process includes review and discussion with regional forest sector initiatives managers, regional forest practices team leaders, and habitat specialists from MELP.

6. Major licensees, MELP staff and MOF regions and districts will be involved in the strategic planning process, and provide in-kind expertise to strengthen project results.

7. This component of the HRMP contributes to Forest Renewal BC's return on investment criteria by providing a tool to strategically assess the placement of investments locally, regionally, and provincially.

8. This component links to other RMP and HRMP components by providing strategic forest level analyses to guide the regional management plans. It uses growth and yield and habitat information from other components of the HRMP.

9. Issues and strategies will be developed for the SFM component through management unit and regional workshops.

Summary table

Project	Project Status	Estimated cost for 01-02	Completion date	Priority
Forest level analysis for silviculture investments	Continuing	$ 850,000	2004	1

FOREST RENEWAL BC
HEADQUARTERS RESOURCE MANAGEMENT PLAN

PROJECT PROPOSAL

Project #: (FRBC will assign)

Project Name:
Forest Level Analysis for Silviculture Investments

Originators:

Name(s):	Patrick Martin	Organization:	MoF-Forest Practices Branch
Telelephone:	356-0305	E-mail Address:	Pat.Martin@gems8.gov.bc.ca

Project Summary

This project will complete and enhance the system of silviculture strategies in the province: a strategy for each management unit in the province, regional strategies, and a provincial strategy. This project is required if Forest Renewal is to meet their Sustainable Harvest Strategic Objective. For each management unit in the province, outputs from this project would provide the strategic plans (silviculture strategies) that identify the program of silviculture activities that should be funded by FRBC to most effectively achieve the Sustainable Harvest Strategic Objective. This project specifically addresses the FRBC performance measure that "silviculture investment decisions will be guided by forest-level stewardship plans in 100 percent of management units." These silviculture strategies are critical input to the SH components of the RMP in each region of the province. This project satisfies all eligibility criteria.

Status

Continuing.

Project Details:

Background

This project was initiated by FRBC in 1999 to respond to criticism by the Auditor General that silviculture investments lacked strategic direction. By March 2001, it is expected that 75% of the management units will have "first generation" (Type 1) strategies and 10% will have the greatly superior Type 2 ("second generation") strategies.

Objectives

The objective for this project is to develop a set of strategic plans that will guide investments in silviculture so that they will achieve the public's social, environmental, and economic objectives.

Scope

The silviculture strategies produced guide treatments in local management units, allocations within regional RMPs, and the overall provincial strategy.

Clients

FRBC, forest licensees, MELP, MoF headquarters, region, and district.

Decision/Ministry objectives supported

This project supports the ministry objective to provide, over both the short- and long -terms, a mix of social, economic and environmental benefits from provincial forests.

Outputs to date if continuing

By March 2001, it is expected that 75% of the management units will have "first generation" (Type 1) strategies and 10% will have the greatly superior Type 2 ("second generation") strategies.

Deliverables:

The project deliverables are:

a) six new Type 2 silviculture strategies each year;
b) six updated Type 1 silviculture strategies each year;
c) annual support for this project including communication initiatives, training programs, and coordination for the duration of the project;
d) a silviculture strategy for each region to help shape regional FRBC investments priorities and budget allocations by March 31, 2003; and
e) an updated provincial silviculture strategy by March 31, 2004.

Partners/Linkages:

Partners include most major licensees, all MoF regions and districts, and MELP. Forest licensees and MoF regions and districts provide in-kind contributions as they participate in planning sessions. This project is delivered by distributing the funding to MoF regions and TFLs to complete strategies according to provincial specifications.

Consequence of Not Funding:

If this project is not funded, FRBCs investments in brushing, spacing, pruning, backlog reforestation, fertilization, etc will continue to lack strategic plans. FRBC will be unable to respond positively to the Auditor General's criticism that its investments are not guided by strategic plans in each management unit. Forest Renewal partners in the Enhanced Forestry Program will fail to make the most effective and efficient silviculture investments.

Timing Constraints:

This project must commence by April 1, 2001 to provide continuity with on-going effort to complete strategic silviculture plans.

Past Investment and Proposed FRBC Budget:

Past Investment (to Mar. 31/01)		Proposed Budget			Total Proposed
FRBC	Other	01-02	02-03	03-04	
$2 000 000	$1 000 000	$850 000	$850 000	$850 000	$2 550 000